Irritant Smoke Tube Kit for Respirator Fit Testing and Airflow Indication

NEXTTEQ®
BETTER TECHNOLOGY. BETTER QUALITY. BETTER VALUE.

Nextteq's Complete Line of Respiratory Protection Products

Products include:

> **Irritant Smoke Tube Kit for Respirator Fit Testing and Airflow Indication***

VeriFit® Irritant Smoke Generators for Respirator Fit Testing

Non-Irritant Smoke Tube Kit for Isolation Room Testing

Quick, Easy-to-use, and Economical for Respirator Fit Testing and Airflow Indication

Using the Nextteq Irritant Smoke Tube Kit for respirator fit testing saves you time and money. You save money because the Irritant Smoke Tube Kit has everything you need to perform multiple fit tests without the cost of extra equipment. There is no need for chamber construction, nebulizers, electric pumps, mixing jars, batteries, special test masks, mask probes, or testing hoods. You save time because each smoke tube and aspiration bulb pump is pre-calibrated and ready for immediate use. There is no warm-up time or calibration required. There are no special sensitivity test chemical mixtures to prepare in advance.

Using the Nextteq Irritant Smoke Tube Kit for airflow indication is a simple and effective method for tracing and determining the source, direction, and dispersion of air currents. The highly visible white smoke provides an immediate and obvious cue to the directional pattern of air currents.

* Uses Gastec Irritant Smoke Tubes

INTRINSICALLY SAFE AND READY TO USE, ANYWHERE AND ANYTIME

No warm-up time or batteries are required. Each Irritant Smoke Tube Kit for Respirator Fit Testing and Airflow Indication includes everything needed to perform a complete fit test or airflow indication exercise. With a five-year shelf life and broad environmental operating conditions, you can perform fit testing and airflow indication almost anywhere at any time.

NO PUMP CALIBRATION REQUIRED, NO FLOW RATE TO SET

Each precision volumetric aspirator bulb pump is pre-calibrated to provide the same volume of air with each complete compression. There is no user calibration or complex, error-prone flow rate to set. Manual operation ensures greater safety and control of the exact amount of smoke generated

THE IRRITANT SMOKE TUBE KIT SIMULATES REAL WORKING CONDITIONS WHEN USED FOR FIT TESTING

At no time are test subjects asked to hold their breath after vigorous exercise, a potentially stressful condition that could be detrimental to the test subject's health. The Irritant Smoke Tube Kit simulates your work environment. There are no test hoods and you are allowed to breathe normally through the entire test.

Irritant smoke is the only OSHA-accepted qualitative fit testing method that does not rely on the test subject's subjective response.

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**
- **Reduced sense of smell or taste due to aging, smoking, or other causes**

A Complete Solution for Fit Testing and Airflow Indication

The Irritant Smoke Tube Kit for Respirator Fit Testing and Airflow Indication (9500) consists of the following:

- **Six (6) Gastec Irritant Smoke Tubes**
- **Six (6) Tube Caps - allowing you to seal and reuse the tubes**
- **Two (2) Tube Tip Breakers**
- **One (1) Rubber Tube Protective Sheath**
- **One (1) Nextteq Carrying Case**
- **One (1) One-Way Valve Aspiration Bulb Pump**
- **One (1) Nextteq Irritant Smoke Tube Kit Manual**

Field-proven as an OSHA accepted respirator fit testing method since 1982.

Irritant smoke is an economical, fast, safe, and reliable qualitative respirator fit testing method. Irritant smoke is used with a wide variety of respirators by firefighters, Hazmat teams, first responders, the U.S. Military, and countless industrial users. Nextteq's Irritant Smoke Tube Kit for Respirator Fit Testing, featuring Gastec smoke tubes, is designed to meet and be used in accordance with OSHA 29 CFR 1910.134.

To use, simply break off both ends of the smoke tube with the tube tip breaker, insert the tube into the aspiration bulb pump, place the protective sheath on the other end of the tube, and gently squeeze the pump. The manually operated volumetric aspiration bulb pump provides the same volume of air with each complete compression and allows you to easily deliver a consistent and controlled flow rate and volume of smoke for a safe and accurate fit test.

The reagent in the tube will immediately react with moisture in the air and generate a dense white smoke. Once you have completed the testing, seal both ends of the tube with the tube caps and store the tube for the next use. It's that simple.

WHY USE IRRITANT SMOKE TO CONDUCT FIT TESTING?

Irritant smoke fit testing relies upon a person's involuntary reflex to cough or sneeze when presented with irritant smoke. This is a more objective method than other qualitative fit testing methods that rely upon a test subject's sense of smell (olfactory response) or taste (gustatory response). Their response is observable by an independent third party, so test subjects cannot change results of tests. Irritant smoke fit testing is the only OSHA-accepted qualitative fit testing method that doesn't rely on the test subject's subjective response.

Particle counting fit testing systems are complicated and require a great deal of equipment. The estimates needed are time-consuming, sometimes requiring that you estimate by counting fractions of a particle. And there are always questions: were some of the particles too small to be measured? is this area representative of the work environment as a whole? Their accuracy can be compromised by high particulate work environments or lung-generated particles common with smokers.

For greater safety, irritant smoke qualitative fit tests are designed to perform fit testing with the same respirator being used on the job. There are no special fit testing respirators or mask probes, or optional adapters. Workers are fit tested with the same respirator they use on the job for added safety and greater employee confidence.

WHY USE IRRITANT SMOKE TO INDICATE AIRFLOW?

Irritant smoke tubes create a highly visible white smoke that provides an easy, quick, and obvious indication of the air currents' direction. This is helpful in maintenance and safety work around air ducts, ventilation and heating systems, laboratory fume hoods, and other negative or positive pressure isolation areas.

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Irritant Smoke Tube Kit

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

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
DISPOSABLE PARTICULATE 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.

Ordering Information

P/N	DESCRIPTION
9500	Irritant Smoke Tube Kit for Respirator Fit Testing and Airflow Indication
9501	Gastec Irritant Smoke Tubes (1 box of 6 tubes and 6 tube caps)
90005	One-Way Valve Aspiration Bulb Pump
9503	Nextteq Carrying Case
9504-10	Tube Tip Breaker
9504-20	Rubber Tube Protective Sheath
50813300-340N	Nextteq Irritant Smoke Tube Kit Manual

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Gastec tubes and pumps are manufactured by the Gastec Corporation. Nextteq is Gastec's exclusive U.S. master wholesale distributor.

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