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## VeriFit Irritant Smoke Generators for Respirator Fit Testing SENSITIVITY CHECK PROTOCOL

### Introduction

This protocol is provided to you to be used in conjunction with normal irritant smoke fit test procedures as outlined in OSHA 29 CFR 1910.134. The user is responsible for determining whether the test protocol, product, or component is fit for a particular purpose and suitable for the user's method of use or application and suitable for the test subject. Nextteq highly recommends that you follow this Sensitivity Check protocol when performing the sensitivity check for irritant smoke qualitative fit testing required by OSHA 29 CFR 1910.134.

### Warnings

1. Read, understand, and comply with all labels, Nextteq warnings, instructions, and other literature accompanying the VeriFit Irritant Smoke Generators as well as all warnings and instructions incorporated in this protocol, including but not limited to, the VeriFit Irritant Smoke Generators for Respirator Fit Testing manual (P/N 50811300-340N Rev C 7/06) before using the smoke tubes or this protocol.
2. Perform this test protocol and operate the smoke generators in strict compliance with Nextteq specifications, instructions, and warnings including but not limited to the VeriFit Irritant Smoke Generators for Respirator Fit Testing manual (P/N 50811300-340N Rev C 7/06) and the instructions and warnings incorporated in this test protocol.
3. Use this Sensitivity Check test protocol only with VeriFit Irritant Smoke Generators. Do not use an electronic pump with this Sensitivity Check test protocol.
4. Do not use this Sensitivity Check test protocol unless you are a trained and qualified, professional commercial or industrial respirator user/test administrator experienced in generating a small, weak, dilute stream of smoke with a smoke generating device. This test protocol is solely for distribution to, storage by, and use by trained, qualified, and professional commercial or industrial respirator users/test administrators in compliance with OSHA 29 CFR 1910.134.
5. Do not use this test protocol or a Sensitivity Check for voluntary respirator use.
6. This test is to be conducted only by an experienced, trained, and qualified professional test administrator. The experienced, trained, and qualified test professional test administrator shall be able to correctly perform the following:
  - A. Instruct the test subject.
  - B. Demonstrate the techniques for performing the test.
  - C. Inspect, test, calibrate, and operate all test equipment.
  - D. Ensure all test equipment and components are in good working order and are suitable to be used together.
  - E. Generate a small, weak, dilute stream of irritant smoke that is the absolute minimum amount necessary to elicit a response.
  - F. Perform the Sensitivity Check.
  - G. Recognize an invalid test.
7. Prior to commencing the Sensitivity Check:
  - A. The administrator shall ensure the test subject has read, understands, and agrees to comply with all the provisions of this test protocol; all of Nextteq specifications, instructions, and warnings; and the test subject's duties and responsibilities as described in OSHA 29 CFR 1910.134.
  - B. The test subject shall be given a description of the test, the test subject's duties and responsibilities, and instructed to minimize his or her exposure to the smoke and to keep his or her eyes tightly shut during the test.



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- C. The test subject shall be instructed to immediately step into fresh, clean air in the event of any exposure or response to irritant smoke.
- D. The test subject shall be given instructions in and shall correctly demonstrate for an experienced, trained, and qualified professional test administrator:
  - I. The proper method to waft a small, weak, and diluted concentration of smoke toward the test subject by extending his or her arm at full length with the palm up and fingers closed together. The test subject's hand should be extended to the edge of the smoke cloud. If the test subject's arm is not extended at full length, the test subject shall back up until his or her arm is at full length. The test subject should be approximately three feet from the edge of the smoke cloud. The test subject should slowly and very gently wave his or her fingers on one hand in the direction of his or her face.
  - II. The proper method to sample a slight whiff of smoke by taking a small, weak, shallow, and short duration sniff of smoke while immediately stepping away from the smoke into fresh, clean air.
- 8. Do not use this product for the Sensitivity Check Protocol if any of the following conditions are present:
  - A. The test subject has a pre-existing respiratory, cardiovascular, or bronchial medical condition.
  - B. The test subject is under a physician's care for a respiratory, cardiovascular, or bronchial ailment; sinus, nasal or ear infection; or impaired immune system.
  - C. The test subject is hypersensitive or allergic to stannic chloride, stannic oxide, hydrogen chloride, tin tetrachloride, tin compounds, or metal chloride.
- 9. If the test subject does not agree to comply with all Nextteq specifications, instructions, and warnings or does not agree to perform all the duties and responsibilities described in OSHA 29 CFR 1910.134 or the test subject cannot correctly demonstrate the correct method to waft the smoke toward the test subject or demonstrate the correct method to sample a slight whiff of smoke, the test subject shall not be fit tested and the Sensitivity Check shall not be performed.
- 10. The administrator shall not conduct a Sensitivity Check of more than one test subject at a time.
- 11. The Sensitivity Check shall be conducted in a calm, windless, and well-ventilated area. No form of hood, chamber, or other enclosure is to be used. Do not perform the Sensitivity Check in a confined space or in an area with moving air that may blow the smoke toward the test subject or administrator. In the area where the Sensitivity Check is performed, the ground surface or deck surface or floor surface shall be flat and level, reasonably smooth, and free of holes and obstructions.
- 12. The administrator shall be careful to recognize that each test subject's sensitivity and response to irritant smoke vary. Sensitivity and response vary based upon size, weight, heredity, health, age, and other factors. Some test subjects may respond to a far greater degree than others to a small amount of irritant smoke. The administrator shall consider the test subject's unique characteristics including, but not limited to, size, weight, heredity, health, allergies, medical history, age, and other relevant factors as well as sensitivity to irritant smoke before generating a small, dilute stream of irritant smoke that is the absolute minimum concentration of irritant smoke necessary to elicit a response from the test subject.
- 13. The administrator and the test subject shall take precautions to minimize the test subject's and administrator's exposure to smoke. The test subject shall only be exposed to a small, weak, dilute concentration of smoke that is the absolute minimum necessary to elicit a response.



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14. Prior to commencing the Sensitivity Check, the administrator shall instruct the test subject:
  - A. That the smoke is irritating to the eyes, nasal passageway, respiratory tract, and lungs.
  - B. That the test subject's eyes should be tightly closed before he or she wafts the smoke in his or her direction.
  - C. That the test subject's eyes should remain closed until the test subject is free of the irritant smoke.
  - D. That the administrator shall advise the test subject when the test subject is free of the smoke and it is safe for the test subject to open his or her eyes.

## Test Protocol

1. Wearing a pair of safety gloves and eye protection, bend smoke generator in the middle to break the ampoule.
2. Remove black cap. Be sure that the tip of the VeriFit Irritant Smoke Generator is pointed away from you and others.

**NOTE:** Retain black cap for later use.

3. Wait 5 seconds for bellows to expand and air to enter smoke generator.
4. Tell the test subject to tightly close his or her eyes.

**CAUTION:** Prior to compressing the bellows, ensure the smoke generator is 36 inches or more away from the test subject's face and NOT aimed in the direction of the test subject's face.

5. Slowly, gently, and uniformly compress the bellows to generate smoke until a small, weak, dilute stream of irritant smoke is produced that is the absolute minimum necessary to elicit a response from the test subject being tested.
6. Immediately stop compressing the bulb and release the partially compressed bulb. No additional smoke is to be generated.
7. The test subject shall stand approximately 36 inches away from the cloud of smoke.
8. The test subject shall extend his or her arm to the edge of the smoke cloud with palm facing upward.
9. Keeping his or her eyes closed, the test subject shall gently and slowly wave a small, dilute portion of the smoke toward his or her breathing zone using the fingertips of his or her outstretched hand.
10. Keeping his or her eyes closed, the test subject shall sample a slight, weak, dilute whiff of smoke by taking a small, weak, shallow, and short duration sniff of smoke.
11. The test subject shall then immediately step away from the smoke into clean, fresh air.
12. The trained, qualified, professional test administrator shall advise the test subject when the test subject is away from the smoke. The administrator shall then instruct the test subject to open his or her eyes.
14. The irritant smoke should produce an involuntary reaction (cough or sneeze) by the test subject.
15. If the test subject fails to provide a reflex response after an initial Sensitivity Check, then wait until all the smoke has vanished and until the test subject confirms all effects of the smoke have ceased before repeating the Sensitivity Check. Do not perform repeat Sensitivity Checks on the same individual too frequently.
16. If the test subject has not previously been exposed to irritant smoke, the Respirator Fit Test should not be started until the test subject first passes the initial Sensitivity Check.



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17. Upon the completion of each Sensitivity Check, if the smoke generator has not been consumed and the testing is complete, the administrator shall, with the smoke generator tip pointed away from the administrator and others, slowly compress the generator's pump bulb. When the generator's pump bulb is fully compressed, replace the black cap over the end of the smoke generator. Store the partially consumed smoke generator with the cap affixed to the open end and the pump bulb compressed.
18. When the smoke generator is consumed, or is disposed of prior to being consumed, the administrator shall, with the smoke generator tip pointed away from the administrator and others, slowly compress the generator's pump bulb. When the generator's pump bulb is fully compressed, replace the black cap over the end of the smoke generator. Neutralize and dispose of any residual smoke generator material and the smoke generator in accordance with federal, state, and local regulations and laws.
19. Store VeriFit Irritant Smoke Generators in a safe, secure, dry, cool space away from direct light and out of the reach of children.
20. Do not perform the Sensitivity Check or Respirator Fit Test if you do not understand or are confused about the operation, performance, or use of VeriFit Irritant Smoke Generators or associated equipment; Nextteq warnings, instructions, or specifications; the MSDS; the Respirator Fit Testing Protocol; or the Sensitivity Check Protocol.

IF YOU HAVE ANY QUESTIONS ABOUT THE OPERATION, PERFORMANCE, OR USE OF VERIFIT IRRITANT SMOKE GENERATORS OR THIS TEST PROTOCOL, NEXTTEQ CAN BE CONTACTED AT ONE OF THE FOLLOWING TELEPHONE NUMBERS: TOLL FREE 877-312-2333 OR LOCAL NUMBER 813-249-5888.

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