

**NEXTTEQ**<sup>®</sup>  
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Manual

# *Nextteq Irritant Smoke Tube Kit\**

*For Respirator Fit Testing  
and Airflow Indication*

P/N 9500 and 9501

\* Uses Gastec Smoke Tubes

NEXTTEQ LLC  
8406 Benjamin Road, Suite J  
Tampa, FL 33634  
USA

<http://www.nextteq.com> / email: [info@nextteq.com](mailto:info@nextteq.com)  
TEL: 813-249-5888 / Toll free: 877-312-2333  
FAX: 813-249-0188 / Toll free: 877-312-2444

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## I. INTRODUCTION

Nextteq Irritant Smoke Tube Kits are quick, simple, and economical to use for respirator fit testing and airflow indication. The kits contain everything needed 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. With an extended shelf life and broad environmental operating conditions, you can perform fit testing and airflow tracking anytime, and virtually anywhere.

Each aspiration bulb pump and Gastec irritant smoke tube is pre-calibrated and ready for immediate use. There is no warm-up time or calibration required. Also, there are no special sensitivity test chemical mixtures to prepare in advance.

Irritant smoke is the only OSHA-accepted qualitative fit testing method that does not rely on the test subject's subjective response. Other types of qualitative fit tests, such as banana oil (Isoamyl acetate), saccharin, or Bitrex, may cause false negative results.

Nextteq recommends the following protocol be used whenever the Nextteq Irritant Smoke Tube Kit is used for qualitative irritant smoke respirator fit testing:

1. Qualitative Respirator Fit Testing be performed in accordance with OSHA 29 CFR 1910.134 at the following intervals:
  - A. At time of initial respirator selection and fitting
  - B. Every six months after the initial fit testing or other successful qualitative fit test

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- C. Whenever the respirator becomes “unacceptable” to the employee and the employee properly notifies the employer of the condition (A respirator may be unacceptable if it causes irritation or pain to the employee or if because of discomfort the employee is unable to wear the respirator for the time required.)
- D. Whenever there is an obvious change in the employee's physical condition that could affect respirator fit (An obvious change in physical condition could include facial scarring, dental changes, cosmetic surgery, or changes in body weight.)

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The Nextteq Irritant Smoke Tube Kit for Respirator Fit Testing and Airflow Indication (**Part Number 9500**) includes the following:

	<b>Part No.</b>	<b>Item</b>
1.	9501	One box of Gastec Irritant Smoke Tubes w/ Gastec Instructions and Warnings (Each box contains six tubes with black caps)
2.	90005	One Nextteq One-Way Valve Aspiration Bulb Pump
3.	9503	One Nextteq Carrying Case
Not Shown	9504-10	Two Tube Breaker Pins
Not Shown	9504-20	One Tube Protector
Not Shown	9505	One Nextteq Irritant Smoke Tube Kit Manual

A package of Gastec Irritant Smoke Tubes (**Part Number 9501**), which can also be purchased separately, includes the following:

	<b>Part No.</b>	<b>Item</b>
1.	9501	One box of Gastec Irritant Smoke Tubes w/ Gastec Instructions and Warnings (Each box contains six tubes with black caps)
Not Shown	9505	One Nextteq Irritant Smoke Tube Kit Manual

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## II. SPECIFICATIONS

### Aspiration Bulb Pump

Length:	3.386 in / 86 mm
Diameter:	1.693 in / 43 mm
Capacity:	30 cc
Operating Temperature:	32°F to 104°F / 0°C to 40°C
Operating Relative Humidity:	10% to 95% RH
Storage Temperature:	41°F to 77°F / 5°C to 25°C
Storage Condition:	Secure, dry, cool space away from direct light

### Smoke Tubes

Length:	5.5 in / 139.7 mm
Diameter:	0.0113 in / 0.287 mm
Total Volume:	35 ml
Delivered Volume:	~ 30 ml
Active Ingredient:	Stannic Chloride (SnCl <sub>4</sub> )
Fluid Admitted:	Air
Generated Smoke Strokes:	Approximately 200 (depending on humidity) *
Color of Generated Smoke:	White
Operating Temperature:	32°F to 104°F / 0°C to 40°C
Operating Relative Humidity:	10% to 95% RH
Storage Temperature:	41°F to 77°F / 5°C to 25°C
Storage Condition:	Secure, dry, cool space away from direct light

*\* At 20% or less relative humidity, the number of strokes capable of generating smoke will increase by ~10%. At 80% relative humidity, the number of strokes capable of generating smoke will decrease by ~10%.*

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**III. WARNINGS**

1. Before using this product, read, understand, and comply with all labels, warnings, instructions, and other literature accompanying the product including but not limited to this manual, the MSDS (also available as P/N 90040 and as a part of this manual in Section V.), the Sensitivity Check Protocol (also available as P/N 50813340-340N and as part of this manual in Section X.), and Gastec Instructions and Warnings (included in the box of Gastec Irritant Smoke Tubes No. 9501). Failure to comply with all warnings and instructions could cause property damage, serious injury, or death.
2. Operate the product in strict compliance with manufacturer's specifications and instructions.
3. Be thoroughly familiar with this product, the manufacturer's instructions and warnings, and associated equipment before using this product.
4. Inspect this product and associated equipment for damage or defects before using. Do not proceed with Respirator Fit Testing or Sensitivity Check if this product or associated equipment is damaged or defective.
5. Keep all bystanders away from this product during use or testing.
6. Do not remove, alter, or cover any label, instruction, or warning.

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7. Use only in well-ventilated areas to prevent the buildup of smoke or fumes. The buildup of smoke or fumes may increase the concentration of the smoke or fumes to dangerous levels, resulting in property damage, serious injury, or death.
8. Do not use under a hood or other enclosed area. Do not use in a confined space. Use under a hood, other enclosure, or in a confined space may increase the concentration of fumes or smoke to dangerous levels, resulting in property damage, serious injury, or death.
9. Do not breathe the fumes or smoke directly. Avoid prolonged breathing of smoke or fumes. Prolonged breathing of smoke or fumes may result in property damage, serious injury, or death.
10. Do not blow smoke or fumes directly into a person's unprotected face. Blowing smoke or fumes directly into a person's unprotected face could result in serious injury, or death.
11. Wear respiratory protection in accordance with OSHA 29 CFR 1910.134, OSHA 29 CFR 1910.139, and NIOSH 42 CFR 84 when directly exposed to fumes or smoke.
12. Wear eye protection in accordance with OSHA standards when exposed to fumes or smoke or when breaking glass tube tips. If contact lenses are worn, they should be worn in strict compliance with applicable NIOSH, OSHA, and ACOEM standards.
13. Do not blow smoke directly into eyes or onto skin. Avoid smoke contacting eyes or skin. Eyes should be tightly closed and remain closed during Respirator Fit Testing and until smoke clears. Blowing smoke into a person's eyes could result in serious injury.

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14. Respirator Fit Testing should be performed in strict compliance with OSHA 29 CFR 1910.134 and OSHA 29 CFR 1910.139.
15. For OSHA qualitative irritant smoke respirator fit testing, only use the Nextteq-specified pump(s) at the flow rates specified in OSHA 29 CFR 1910.134 and OSHA 29 CFR 1910.139. For all other uses of irritant smoke tubes, only use the manufacturer-specified pump at the manufacturer-specified flow rate. If the pump is operated at non-specified flow rates, smoke or fume concentrations may increase to dangerous levels, resulting in property damage, serious injury, or death.
16. Only use the pumps specified by the manufacturer. Only operate the pumps in strict compliance with the manufacturer's specifications and instructions. If a non-specified pump is used or if the pump is operated not in accordance with the manufacturer's specifications and instructions, smoke or fume concentrations may increase to dangerous levels, resulting in property damage, serious injury, or death.
17. Do not operate this product closer to test subjects or test administrator than specified by OSHA 29 CFR 1910.134, OSHA 29 CFR 1910.139, and the manufacturer. Operating at non-specified distances could increase smoke or fume concentrations to dangerous levels, resulting in property damage, serious injury, or death.
18. The smoke tube contains stannic chloride that combines with humidity to liberate a white smoke consisting of hydrogen chloride and tin compounds.

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- A. If inhaled and repeated coughing or trouble breathing occurs, immediately remove test subject to fresh clean air. Restore and support breathing as necessary.
  - B. If coughing or breathing difficulty persists, immediately provide oxygen and immediately contact a physician.
  - C. If smoke contacts eyes, immediately flush eyes with copious amounts of clean running water for fifteen (15) minutes, including under eyelids, and immediately contact a physician.
  - D. If smoke contacts a large area of skin, contacts skin for a prolonged period, or if irritation persists, immediately flush affected area with copious amounts of clean running water for fifteen (15) minutes and immediately contact a physician.
19. Do not use this product for Respirator Fit Testing or Sensitivity Check 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; or asthma.
  - C. The test subject is hypersensitive or allergic to stannic chloride, stannic oxide, hydrogen chloride, tin tetrachloride, tin compounds, or metal chloride.
  - D. The test subject has failed the medical evaluation specified by OSHA 29 CFR 1910.134.

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20. Do not remove or adjust respirator during Respirator Fit Testing or in the presence of smoke or fumes. Move to an area of fresh clean air before removing or adjusting respirator.
21. NIOSH-approved HEPA plus acid gas filters or equivalent filters specified by NIOSH should be used in all fit testing in lieu of HEPA filters.
22. Do not eat, drink, take internally, inhale smoke into the mouth, or consume contents of smoke tube as it may result in serious injury, or death.
23. Do not heat or burn the smoke tubes or throw smoke tubes into a fire. Smoke tubes may emit dangerous toxic fumes.
24. After using smoke tube or after being exposed to smoke or fumes, wash face, hands, and any areas exposed to fumes or smoke thoroughly with soap and water before eating, drinking, smoking, applying cosmetics, inserting or removing contact lenses, or touching eyes or mucous membranes.
25. Do not spray smoke or fumes of smoke tube into ventilation ducts unless you have first checked to ensure the smoke will not be blown onto unprotected people.
26. Do not spray smoke in and/or over areas that have the possibility of contaminating food or beverages, surfaces that come in contact with food or beverages, food or beverage containers, and/or food preparation, serving, or holding areas.
27. This product is only for sale to, only for use by, and only for storage by trained, qualified, technically competent, and professional industrial, commercial, military, or government users.

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28. Do not dispose of expired or used smoke tubes in domestic or residential waste. Smoke tubes must be disposed of properly because the tube contains chemicals. Dispose of smoke tubes in strict accordance with all federal, state, and local statutes, ordinances, and regulations.
29. Smoke tubes are primarily composed of glass and chemicals. Keep smoke tubes out of the reach of children.
30. During the Sensitivity Check, do not place the open end of the smoke tube closer than 36 inches from the test subject's face. Do not point the open end of the smoke tube toward the test subject's face. If the smoke tube is placed too close to the test subject's face or points toward the test subject's face, smoke or fumes concentrations may increase to dangerous levels, resulting in property damage, serious injury, or death.
31. Perform the Respirator Fit Test and/or Sensitivity Check strictly in accordance with OSHA 29 CFR 1910.134, this manual, Nextteq's Sensitivity Check Protocol, and other instructions provided by Nextteq.
32. Use the Nextteq Aspiration Bulb Pump for Respirator Fit Testing and the Sensitivity Check strictly in accordance with this manual, OSHA 29 CFR 1910.134, Nextteq's Sensitivity Check Protocol, and the manufacturer's warnings, instructions, and specifications.
33. Prior to starting the Respirator Fit Test or the Sensitivity Check:
  - A. Instruct the test subject to immediately step into fresh, clean air in the event of any exposure or response to irritant smoke.

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- B. Give the test subject a complete and accurate description of the following:
  - I. The Respirator Fit Test
  - II. The Sensitivity Check
  - III. The test subject's duties and responsibilities in accordance with this manual, the Sensitivity Check Protocol, OSHA 29 CFR 1910.134, and Gastec Instructions and Warnings (included with the box of Gastec Irritant Smoke Tubes No. 9501)
  - IV. The risk of serious injury or death if the instructions or warnings are not followed.
- 34. Do not start or continue the Respirator Fit Test or the Sensitivity Check if any of the following occurs:
  - A. The test subject does not pass the initial Sensitivity Check, as outlined in OSHA 29 CFR 1910.134.
  - B. The test subject does not pass the User Seal Check, as outlined in OSHA 29 CFR 1910.134.
  - C. There is any hair, clothing, caps, eyeglasses, hearing aids or other objects between the test subject's skin and the respirator face piece seal surface or if any object interferes with valve functions.
  - D. The test subject has not correctly donned, positioned, and adjusted the respirator in accordance with OSHA 29 CFR 1910.134.
  - E. The test subject has not passed a medical evaluation in accordance with OSHA 29 CFR 910.134 prior to this test.

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- F. The test subject is in poor health or any of the following conditions are present:
  - I. The test subject has a pre-existing respiratory, cardiovascular, or bronchial medical condition.
  - II. 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; or asthma.
  - III. The test subject is hypersensitive or allergic to stannic chloride, stannic oxide, hydrogen chloride, tin tetrachloride, tin compounds, or metal chloride.
- G. The Respirator Fit Test and/or Sensitivity Check Administrator is not an experienced, trained, qualified, professional Respirator Fit Test and/or Sensitivity Check Administrator able to perform his or her duties in accordance with OSHA 29 CFR 1910.134 including, but not limited to, correctly performing the following:
  - I. Instructing the test subject.
  - II. Demonstrating the techniques for performing the tests.
  - III. Conducting the tests.
  - IV. Preparing test materials.
  - V. Inspecting and testing all the equipment and components and confirming that all equipment and components are in good working order and may be used together.

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VI. Demonstrating the proper technique to generate a weak, dilute stream of irritant smoke with an aspiration bulb pump.

VII. Recognizing an invalid test.

35. Do not distribute a Nextteq Irritant Smoke Tube Kit without a complete set of Gastec and Nextteq instructions, warnings, specifications, and MSDS. Distributing a Nextteq Irritant Smoke Tube Kit without a complete set of warnings, instructions, specifications, and MSDS may result in misuse and lead to property damage, serious injury, or death.
36. Do not expose the test subject too frequently to irritant smoke. Do not re-expose the test subject to irritant smoke until the test subject specifically and expressly confirms that all effects from the prior exposure to irritant smoke have ceased.
37. A test subject's sensitivity to irritant smoke varies based upon size, weight, heredity, age, health, and other factors. Some test subjects may respond to a greater degree than others to irritant smoke. During the Sensitivity Check, the administrator shall consider the test subject's sensitivity and be careful to generate a small, weak, dilute stream of smoke that is the absolute minimum stream of irritant smoke necessary to elicit a response from the test subject.
38. The Nextteq Irritant Smoke Tube Kit, Gastec Irritant Smoke Tubes, and Nextteq Aspiration Bulb Pump are only to be used for Respirator Fit Testing and Sensitivity Check in strict compliance with OSHA 29 CFR 1910.134, this manual, Nextteq's Sensitivity Check Protocol, and other instructions provided by Nextteq LLC.

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39. Do not substitute, modify, or omit parts or components. Use exact manufactured replacement parts in configurations specified by the original manufacturer. Substitution of unauthorized parts may result in property damage, accidents, serious injury, or death.
40. The Nextteq Aspiration Bulb Pump has an internal volume of approximately 30 milliliters. The pump produces a volume of approximately 25 milliliters with each complete and uniform bulb compression plus or minus 5 milliliters per compression.
41. To produce a flow rate of approximately 200 milliliters per minute with the Nextteq Aspiration Bulb Pump, uniformly and completely compress the bulb smoothly and continuously every 8 seconds for 1 minute.
42. To produce a small, weak dilute concentration of smoke using the Nextteq Aspiration Bulb Pump, slowly and gently compress the bulb at a controlled, uniform, steady rate until a small, weak, diluted stream of smoke is produced that is the absolute minimum necessary to elicit a response from the test subject being tested.

Then immediately stop compressing the bulb and release the partially compressed bulb. No additional smoke is to be generated.

43. Do not insert a Gastec Irritant Smoke Tube into an operating electronic pump.
44. Do not use a Gastec Irritant Smoke Tube with an electronic pump for the Sensitivity Check. The electronic pump may not be calibrated; the flow rate may be set too high; and the pump may not automatically shut off rapidly. Any of these could lead

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- to an increased concentration of smoke or fumes, resulting in property damage, serious injury, or death.
45. Do not dispose of irritant smoke tubes with turpentine, alcohols, or amines. Exposure to turpentine, alcohols, or amines may result in chemical reaction and fire resulting in property damage, serious injury, or death.
  46. Before using or attempting to use this product, users should wear the following:
    - A. Safety gloves in accordance with OSHA standards and good practice.
    - B. Respiratory protection in accordance with OSHA 29 CFR 1910.134 and NIOSH 42 CFR 84.
    - C. Eye protection in accordance with OSHA standards and good practice. Contact lenses should be worn in strict compliance with applicable NIOSH, OSHA, and ACOEM standards.
  47. This product(s) is designed for qualitative respiratory fit testing in ambient atmospheres of 40% relative humidity to 90% relative humidity. Do not use this product(s) in atmospheres of less than 40% relative humidity. Use of this product(s) below 40% relative humidity may increase the irritant effect of the smoke.
  48. Do not fit test N95, R95, P95, N99, R99, or P99 particulate respirators with a Gastec Irritant Smoke Tube. Fit testing the particulate respirators listed above with a Gastec Irritant Smoke Tube may result in serious personal injury, sickness, and/or death.

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49. Ship or transport this product in accordance with all federal, state, and local laws and regulations, including federal DOT regulation 49 CFR, and OSHA and FAA regulations.
50. Keep this manual and the Gastec Instructions and Warnings (included in the box of Gastec Irritant Smoke Tubes No. 9501) available for reference and training.
51. Check with your transportation provider before transporting the Nextteq Irritant Smoke Tube Kit or Gastec Irritant Smoke Tubes on an airplane, train, bus, or other method of transportation.
52. Remember the product is only as safe as the product user.
53. If you need more information or if you have any questions about operation or use, contact Nextteq at one of the following telephone numbers: toll free 877-312-2333 or local number 813-249-5888.

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#### **IV. OWNER/USER RESPONSIBILITY**

1. The OWNER and/or USER must have an accurate and complete understanding of the manufacturer's warnings and additionally the manufacturer's operating instructions before using this product. Warning information should be emphasized and understood.
2. If the operator of this product or any person tested by this product is not fluent in English, the manufacturer's warnings and the manufacturer's operating instructions shall be accurately and completely read by the OWNER and/or USER and discussed immediately and fully with the operator of the product in the operator's native language prior to the operator using or attempting to use the product. In addition, it is the responsibility and duty of the OWNER and/or USER to make sure that the operator understands and complies with all of the manufacturer's warnings and all of the manufacturer's operating instructions prior to using or attempting to use this product.
3. If the OWNER and/or USER is confused about the proper use of the Nextteq Irritant Smoke Tube Kit, any instructions or warnings or labels, specifications, test protocols, or manuals, before using or attempting to use this product the OWNER and/or USER should call Nextteq LLC at one of the following telephone numbers: toll free 877-312-2333 or local number 813-249-5888 and/or toll free fax 877-312-2444 or local fax 813-249-0188. The OWNER and/or USER may also review information concerning the product on Nextteq's website at [www.nextteq.com](http://www.nextteq.com).

The Gastec Irritant Smoke Tube (Part Number 9501) is manufactured by the Gastec Corporation. Nextteq is Gastec's exclusive U.S. master wholesale distributor.

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## V. MSDS

This MSDS is also available at [www.nextteq.com](http://www.nextteq.com) as P/N 90040.

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### Part 1 - Material Identification

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**Material Name:** Nextteq Irritant Smoke Tube Kit (using Gastec Irritant Smoke Tubes) (P/N 9500)  
Gastec Irritant Smoke Tubes (P/N 9501)

**Chemical Name:** Stannic Chloride (CAS No. 7646-78-8, UN No. 1827)

**Synonyms:**

- A. Tin tetrachloride, Tin (IV) Chloride
- B. Air Flow Indicator Tube
- C. Irritant Smoke Generator

**Formula:**  $\text{SnCl}_4$

**Chemical Family:** Metal Chloride

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### Part 2 - Ingredients and Hazards

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Stannic chloride reacts with ambient humidity to liberate a white smoke consisting of hydrogen chloride (HCl) and tin compounds. The emitted smoke has a strong irritating odor.

#### Exposure Limits

##### Tin Inorganic Compounds

ACGIH-TLV: TWA 2 mg/m<sup>3</sup>

OSHA PEL: 2 mg/m<sup>3</sup>

##### Hydrogen Chloride

OSHA PEL: Ceiling 5 ppm

ACGIH-TLV: STEL Ceiling 2 ppm

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Listed in the 2004 ACGIH-TLV handbook with a carcinogenicity notation of A4, which is defined as “Not classifiable as a human carcinogen”.

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### Part 3 - Physical Data

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#### Stannic Chloride

Appearance: Colorless liquid

Boiling Point: 237.2°F

Melting Point: -22.36°F

Volatility: N/A

Specific gravity: 2.23 g/cm<sup>3</sup> (at 68°F)

Solubility: N/A

#### Hydrogen Chloride

Appearance: Colorless to slightly yellow gas, irritating odor

Boiling Point: -121°F

Melting Point: N/A

Specific Gravity: N/A

Vapor Pressure: 40.5 atm

Solubility in Water: 37% by weight @ room temperature

Relative Vapor Density: (Air=1)= 1.268

N/A = Not Available

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### Part 4 - Fire and Explosive Data

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Flash Point and Method: N/A

Auto Ignition Temp. °F: N/A

Flammability Limits In Air Volume %:

Lower: N/A, Upper: N/A

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**Extinguishing Media:** Use extinguishing media appropriate for the material that is burning.

**Special Fire Fighting Procedures:** Firefighters should use SCBA units to protect against possible toxic decomposition products and wear protective clothing. If there is a fire around the area where tubes are stored, move the tubes or cool the tubes by dousing with a large amount of water. Do not put water on tubes that have been crushed or broken.

**Unusual Fire and Explosion Hazards:** Fire encompassing the tubes will emit toxic fumes of chlorides. Violently reacts with water to generate heat. Generates smoke with moisture in air. Mixing with alkali metal may result in an explosion.

N/A = Not Available

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## Part 5 - Health Hazard Information

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### Exposure Limits Information:

#### Tin Inorganic Compounds

ACGIH-TLV: TWA 2 mg/m<sup>3</sup>

OSHA PEL: 2 mg/m<sup>3</sup>

#### Hydrogen Chloride

OSHA PEL: Ceiling 5 ppm

ACGIH-TLV: STEL Ceiling 2 ppm

Listed in the 2004 ACGIH-TLV handbook with a carcinogenicity notation of A4, which is defined as "Not classifiable as a human carcinogen".

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**Toxicological Information:**Stannic Chloride

Skin Corrosion: May result in extreme irritation and burns to the skin.

Irritation (Skin, Eyes): Eye contact may result in extreme irritation to the eyes.

Acute Toxicity: When inhaled, irritates nose, throat, and respiratory tract.

Hydrogen Chloride

Acute Toxicity: When inhaled, irritates nose, throat, and respiratory tract.

**Effects of Overexposure:** Hydrogen chloride gas is corrosive. Prolonged inhalation of gas concentrations moderately above the ACGIH: TLV ceiling of 2 ppm can irritate nasal passages. Inhalation of higher concentrations (above 2 ppm) for short periods of time can cause choking and coughing, and produce severe irritation to the mucous membranes of the upper respiratory tract. The NIOSH-recommended IDLH level is 50 ppm. HCl can cause severe irritation and tissue burns. If deeply inhaled, pulmonary edema may occur.

The emitted tin compound is also an irritant to eyes, skin, and mucous membranes, due to its acidity.

**Emergency and First Aid Procedure:**

**Eyes:** Immediately flush eyes with copious amounts of clean running water for at least fifteen (15) minutes, occasionally lifting the lower and upper lids to flush the area under the lids. Contact a physician.

**Skin:** Flush the affected areas with copious amounts of clean running water and wash with soap for at least fifteen (15) minutes.

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Get medical help in case of a large area of contact or if irritation persists.

**Inhalation:** Remove test subject to fresh air. Restore and/or support breathing as necessary. Provide oxygen therapy for persistent coughing or if breathing is difficult. Keep subject warm and at rest. Get medical help.

**Swallowed:** If swallowed, get medical help immediately.

**ASSISTANCE:** IF THE USER IS CONFUSED ABOUT THE PROPER USE OF THE SMOKE TUBE / GENERATOR OR ANY INSTRUCTIONS, WARNINGS, LABELS, OR THE MANUAL, PRIOR TO USING THIS PRODUCT THE USER SHOULD CONTACT NEXTTEQ FOR ASSISTANCE. 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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## Part 6 - Reactivity Information

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**Stability:**  $\text{SnCl}_4$  decomposes upon exposure to moist air or water. HCl is a stable compound. It does not undergo hazardous polymerization; however, HCl can catalyze polymerization of other compounds.

**Conditions to Avoid:** Reacts with turpentine, alcohols, and amines causing a potential fire hazard. Incompatible materials include alkali compounds, amines, metal oxides, hydroxides, copper, brass, zinc, other metals, turpentine, and alcohols. Mixing with alkali metals may result in an explosion.

**Hazardous Decomposition Products:** When heated to decomposition, the smoke tubes will emit chloride fume.

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### Part 7 - Spill, Leak, and Disposal Procedures

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**Spill Procedure:** Does not apply.

**Broken Glass Cleanup:** Broken glass should not be picked up with bare hands.

**Disposal Procedure:** Soak used tubes in large volume of water and neutralize with sodium carbonate or equivalent alkaline substance. Dispose of tubes via landfill. Consult local authorities to assure compliance with all local, state, and federal laws and regulations, including but not limited to EPA regulations.

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### Part 8 - Special Protection Information

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**Protective Equipment:** For irritant smoke quantitative fit testing, wear respiratory protection in accordance with OSHA 29 CFR 1910.134, NIOSH 42 CFR Part 84, and good practice. Wear safety goggles to minimize eye contact and keep eyes closed during exposure to irritant smoke. Wear chemical resistant safety gloves with resistance to broken glass in accordance with NIOSH and OSHA standards and good practice.

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### Part 9 - Special Precautions and Comments

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**Dangerous to Life:** Read, understand, and comply with all instructions, warnings, labels, and other literature accompanying this product before attempting to use or using this product. Use this product in accordance with the manufacturer's instructions, specifications, and warnings, and only with the manufacturer's specified parts, components, and accessories.

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**Class of Users:** This product is only for sale to, only for use by, and only for storage by trained, qualified, technically competent, and professional industrial, commercial, military, or government users.

**Handling and Storage:** Store in the original container in a cool, dry place. Protect against light, heat, moisture, and physical damage.

**Shipping Information:** Ship this product according to local, state, and federal laws and regulations, including but not limited to federal Department of Transportation regulations in DOT 49 CFR.

**Other Precautions:** Avoid eye and skin contact with smoke. Do not directly breathe the smoke. Avoid the buildup of smoke. Use in a well-ventilated area. Do not use under a hood or in a confined space. Do not blow smoke directly into anyone's unprotected face or eyes. Test only one person at a time. Do not blow smoke between test subjects. Immediately after using the smoke tube or being exposed to the smoke, scrub face, hands, and any area exposed to the smoke with soap and clean running water and always before eating, drinking, smoking, applying cosmetics, or inserting or removing contact lenses.

Do not use this product for respirator fit testing or a "Sensitivity Check" if any of the following conditions is present:

- A. The test subject has pre-existing respiratory, cardiovascular, bronchial, or sinus medical condition.
- B. The test subject is under a physician's care for respiratory, cardiovascular, bronchial, or sinus problems.
- C. The test subject is being treated for allergies, hypersensitivity, or asthma or has a pre-existing allergic, hypersensitivity, or other condition.

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- D. The test subject is allergic to or hypersensitive to hydrogen chloride, stannic chloride, stannic oxide, stannic dioxide, tin tetrachloride, tin compounds, hydrochloric acid, or metal chloride.

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## **VI. OPERATING INSTRUCTIONS FOR RESPIRATOR FIT TESTING**

### **A. Required Steps before Smoke Generation**

1. Before using this product, read, understand, and comply with all labels, warnings, instructions, and other literature accompanying the product including but not limited to this manual, the MSDS (P/N 90040) in this manual, the Sensitivity Check Protocol (P/N 50813340-340N) in this manual, and Gastec Instructions and Warnings (included in the box of Gastec Irritant Smoke Tubes No. 9501).
2. Inspect this product and associated equipment for damage or defects before using. Do not proceed with Respirator Fit Testing or Sensitivity Check if this product or associated equipment is damaged or defective.
3. Use the Nextteq Irritant Smoke Tube Kit, the Nextteq Aspiration Bulb Pump or the Nextteq One-Way Valve Aspiration Bulb Pump, and Gastec Smoke Tubes in strict compliance with Nextteq specifications, instructions, and warnings, including but not limited to this manual and Gastec Instructions and Warnings (included in the box of Gastec Irritant Smoke Tubes No. 9501).
4. Do not start or continue the Respirator Fit Test or the Sensitivity Check 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; or asthma.

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- C. The test subject is hypersensitive or allergic to stannic chloride, stannic oxide, hydrogen chloride, tin tetrachloride, tin compounds, or metal chloride.
  - D. The test subject has failed the medical evaluation specified by OSHA 29 CFR 1910.134.
5. Do not perform or administer Irritant Smoke Qualitative Respirator Fit Testing using the Nextteq Irritant Smoke Tube Kit (P/N 9500), Gastec Smoke Tubes (P/N 9501), the Nextteq Aspiration Bulb Pump (P/N 9502), or the Nextteq One-Way Valve Aspiration Bulb Pump (P/N 90005) unless you are a fully trained, qualified, and professional commercial, industrial, military, or government test administrator experienced in correctly conducting irritant smoke qualitative respirator fit testing and fully trained and experienced in generating a small, weak, dilute stream of smoke with an irritant smoke tube and an aspiration bulb pump.
  6. Use only in well-ventilated areas to prevent the buildup of smoke or fumes. Do not use under a hood or other enclosed area. Do not use in a confined space.
  7. Irritant Smoke Qualitative Respirator Fit Testing should be performed in strict compliance with OSHA 29 CFR 1910.134. NIOSH-approved HEPA plus acid gas filters or equivalent filters specified by NIOSH may be used in all fit testing in lieu of HEPA filters.

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8. Test subject's eyes should be tightly closed and remain closed during Irritant Smoke Qualitative Respirator Fit Testing or Sensitivity Check until smoke clears. Do not remove or adjust respirator during Irritant Smoke Qualitative Respirator Fit Testing or in the presence of smoke or fumes. Move to an area of fresh clean air before removing or adjusting respirator.
9. A test subject's sensitivity to irritant smoke varies based upon size, weight, heredity, age, health, and other factors. Some test subjects may respond to a greater degree than others to irritant smoke. During the Sensitivity Check, the administrator shall consider the test subject's sensitivity and be careful to generate a small, dilute, weak stream of smoke that is the absolute minimum stream of irritant smoke necessary to elicit a response from the test subject.
10. Do not re-expose the test subject to irritant smoke until the test subject specifically and expressly confirms that all effects from the prior exposure to irritant smoke have ceased.
11. Test only one test subject at a time.
12. For Irritant Smoke Qualitative Respirator Fit Testing, the Nextteq Aspiration Bulb Pump has an internal volume of approximately 30 milliliters. The Nextteq Aspiration Bulb Pump produces a volume of approximately 25 milliliters with each complete and uniform bulb compression plus or minus 5 milliliters per compression. To obtain a flow rate of approximately 200 milliliters per minute, uniformly and smoothly press the bulb every 8 seconds for 1 minute.

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13. To determine the precise volume of the Nextteq Aspiration Bulb Pump, fill the bulb with water and empty the contents into a measuring cup to determine the exact volume of the bulb. Next, calculate the number of compressions per unit of time necessary to generate the desired flow rate.
14. Perform the irritant smoke qualitative respirator fit testing in accordance with OSHA 29 CFR 1910.134.
15. Before commencing the Irritant Smoke Qualitative Respirator Fit Testing, the fully trained, qualified, and professional commercial, industrial, military, or government test administrator shall perform the following:
  - A. Provide the test subject with a description of the test and instruct the test subject in the test subject's duties and responsibilities before, during, and after the test in accordance with OSHA 29 CFR 1910.134 and Nextteq specifications, operating instructions, and warnings and Gastec Instructions and Warnings (included in the box of Gastec Irritant Smoke Tubes No. 9501).
  - B. Ensure the test subject has read, understands, and explicitly agrees to comply with all the duties, responsibilities, and provisions of the OSHA irritant smoke qualitative fit testing protocol that apply to the test subject per OSHA CFR 1910.134 as well as all warnings and instructions incorporated in Nextteq's Irritant Smoke Tube Kit Manual and Gastec Instructions and Warnings (included in the box of Gastec Irritant Smoke Tubes No. 9501).

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- C. Instruct the test subject to minimize his or her exposure to the smoke and keep his or her eyes tightly shut during the test.
- D. Instruct the test subject to immediately step away from the smoke and into fresh, clear air in the event of any exposure or response to irritant smoke.
- E. Instruct the test subject to demonstrate the following:
  - I. The proper method for donning the respirator
  - II. The proper method for securing a snug respirator fit
  - III. The proper method for manually checking the respirator fit
  - IV. Explain to the test subject that the test subject should not participate in an Irritant Smoke Qualitative Respirator Fit Test if the test subject:
    - a. Has a pre-existing respiratory, cardiovascular, bronchial, or sinus medical condition.
    - b. Is under a physician's care for a respiratory, cardiovascular, or bronchial ailment; sinus, nasal, or ear infection; or impaired immune system; or asthma.
    - c. Is allergic to or hypersensitive to hydrogen chloride, stannic chloride, stannic oxide, stannic dioxide, tin tetrachloride, tin compounds, hydrochloric acid, or metal chloride or chemicals in general.

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- F. Ensure that the test subject does not have any hair growth, beard, mustache, or sideburns which cross the respirator sealing surface or any type of apparel or equipment that interferes with a satisfactory respirator fit.

## **B. Steps for Smoke Generation**

1. Break the tip off a fresh tube by bending each tube end in the tube tip breaker supplied with the Nextteq Irritant Smoke Tube Kit (P/N 9500).
2. Place the black cap on one broken end of the smoke tube.
3. Pointing the tube end with the black cap away from you, insert the other end of the tube into the aspiration bulb pump, being careful not to compress the bulb.
4. Immediately before commencing use, remove the black cap from the end of the smoke tube.

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

5. Holding the pump at half arm's length away from you, place the protective tube sheath over the jagged end of the smoke tube and aim the smoke tube tip away from you and other people in the area.

**CAUTION:** Prior to compressing the bulb, ensure the smoke tube is aimed in the correct direction and at the correct distance from the test subject.

6. Tell the test subject to tightly close his or her eyes.
7. Slowly, gently, and uniformly compress the bulb at a controlled, steady rate until the bulb is completely compressed.

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8. The test subject shall then immediately step away from the smoke into clean, fresh air.
9. 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.
10. The irritant smoke should produce an involuntary reaction (cough or sneeze) by the test subject.
11. If there is a leak in the mask, and the test subject must be tested again, then wait until all the smoke has vanished and until the test subject confirms all effects of the smoke have ceased before repeating fit testing. Do not perform repeat Sensitivity Checks on the same individual too frequently.

IF YOU HAVE ANY QUESTIONS ABOUT THE OPERATION, PERFORMANCE, OR USE OF THE NEXTTEQ IRRITANT SMOKE TUBE KIT, GASTEC IRRITANT SMOKE TUBES, NEXTTEQ ASPIRATION BULB PUMP, THIS TEST PROTOCOL, OR THE GASTEC INSTRUCTIONS OR WARNINGS, 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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## VII. OPERATING INSTRUCTIONS FOR AIRFLOW INDICATION

### A. Required Steps before Smoke Generation

1. Before using this product, read, understand, and comply with all labels, warnings, instructions, and other literature accompanying the product including but not limited to this manual, the MSDS (also available as P/N 90040) in this manual, and Gastec Instructions and Warnings (included in the box of Gastec Irritant Smoke Tubes No. 9501).
2. Inspect this product and associated equipment for damage or defects before using.

### B. Steps for Smoke Generation

1. Determine where the airflow indication is needed.
2. Break the tip off a fresh tube by bending each tube end in the tube tip breaker supplied with the Nextteq Irritant Smoke Tube Kit (P/N 9500).
3. Place the black cap on one broken end of the smoke tube.
4. Pointing the tube end with the black cap away from you, insert the other end of the tube into the aspiration bulb pump, being careful not to compress the bulb.
5. Immediately before commencing use, remove the black cap from the end of the smoke tube.

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

6. Holding the pump at half arm's length away from you, aim the smoke tube tip away from you and other people in the area.

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**CAUTION:** Prior to compressing the bulb, ensure the smoke tube is aimed in the correct direction of the area being studied.

7. Slowly, gently, and uniformly compress the bulb at a controlled, steady rate until the bulb is completely compressed.
8. A white aerosol is emitted allowing visualization of air currents.

IF YOU HAVE ANY QUESTIONS ABOUT THE OPERATION, PERFORMANCE, OR USE OF THE NEXTTEQ IRRITANT SMOKE TUBE KIT, GASTEC IRRITANT SMOKE TUBES, NEXTTEQ ASPIRATION BULB PUMP, THIS TEST PROTOCOL, OR THE GASTEC INSTRUCTIONS OR WARNINGS, 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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## VIII. TROUBLESHOOTING

1. If the Gastec Irritant Smoke Tube does not emit smoke when air is forced into the tube, the tube may be clogged due to water vapor absorption. To correct this problem, place the tube in a warm, flame-free, moisture-free environment to dry out the tube.

**WARNING:** Heating the end plugs of the tube with a match or lighter to accelerate drying is not recommended, as this heat may generate toxic fumes.

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## **IX. STORAGE AND DISPOSAL**

1. A Gastec Irritant Smoke Tube may be used as many as 40 times depending upon environmental conditions and the skill of the administrator.
2. Upon the completion of each Sensitivity Check, a fit testing, or an airflow indication exercise, if the smoke tube has not been consumed and when testing is complete, the administrator shall, with the smoke tube tip pointed away from the administrator and others, slowly compress the pump bulb. When the pump bulb is fully compressed, place a cap over the exposed end of the smoke tube. Do not remove the aspiration bulb pump. Store the partially consumed smoke tube with the cap affixed to one end and the compressed aspirator bulb pump affixed to the other end of the smoke tube.
3. When the smoke tube is consumed, or is being disposed of prior to being consumed, gently remove the aspirator bulb pump from the smoke tube, being careful not to compress the bulb. Turn the bulb upside down over an appropriate waste receptacle and gently shake the bulb to discard any residual material from the irritant smoke tube. Neutralize and dispose of any residual smoke tube material and the smoke tube in accordance with federal, state, and local regulations and laws.
4. Store the Nextteq Irritant Smoke Tube Kit, the Gastec Irritant Smoke Tubes, and the Nextteq Aspiration Bulb Pump in a safe, secure, dry, cool space away from direct light and out of the reach of children.

The Gastec Irritant Smoke Tube (Part Number 9501) is manufactured by the Gastec Corporation. Nextteq is Gastec's exclusive U.S. master wholesale distributor.

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## **X. SENSITIVITY CHECK PROTOCOL**

### **A. 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.

### **B. Warnings**

1. Read, understand, and comply with all labels, Gastec and Nextteq warnings, instructions, and other literature accompanying the Nextteq Irritant Smoke Tube Kit, Gastec Irritant Smoke Tubes, and Nextteq Aspiration Bulb Pump as well as all warnings and instructions incorporated in this protocol, including but not limited to, the Gastec Instructions and Warnings (included in the box of Gastec Irritant Smoke Tubes No. 9501) and the Nextteq Irritant Smoke Tube Kit Manual (P/N 9505) before using the smoke tubes or this protocol.
2. Perform this test protocol and operate the smoke tube and smoke tube pump in strict compliance with Gastec and Nextteq specifications, instructions, and warnings including but not limited to the Gastec Instructions and Warnings (included in the box of Gastec Irritant Smoke Tubes No. 9501) and the Nextteq Irritant Smoke Tube Kit Manual (P/N 9505), as well as the instructions and warnings incorporated in this test protocol.

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3. Use this Sensitivity Check test protocol only with a Gastec Irritant Smoke Tube (P/N 9501) and Nextteq Aspiration Bulb Pump (P/N 9502) or Nextteq One-Way Aspiration Bulb Pump (P/N 90005) as packaged in the Nextteq Irritant Smoke Tube Kit (P/N 9500). 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, qualified, technically competent, and professional industrial, commercial, military, or government respirator user/test administrator experienced in generating a small, weak, dilute stream of smoke with an aspiration bulb pump. This test protocol is solely for distribution to, storage by, and use by trained, qualified, technically competent, and professional industrial, commercial, military, or government 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 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.

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- 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 Gastec and 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.
  - 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

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- her arm is at full length. The test subject should be approximately 36 inches 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; or asthma.
  - 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 Gastec and 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.

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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.
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.

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- 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.

### **C. Test Protocol**

1. Wearing a pair of safety gloves and eye protection, break both ends of the Gastec Irritant Smoke Tube by bending each end in the tube tip breaker hole.
2. Place a black cap on one end of the smoke tube.
3. Pointing the tube end with the black cap away from you, insert the tube into the Nextteq Aspiration Bulb Pump, being careful not to compress the bulb.
4. Confirm you are using the correct aspiration bulb pump for the Sensitivity Check.
5. Immediately before commencing the Sensitivity Check, remove the black cap from the end of the tube.

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

6. Holding the pump at half arm's length away from you, place the protective tube sheath over the jagged end of the smoke tube and aim the tip of the smoke tube away from you and the test subject.
7. Tell the test subject to tightly close his or her eyes.

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- CAUTION:** Prior to compressing the bulb, ensure the smoke tube tip is 36 inches or more away from the test subject's face and NOT aimed in the direction of the test subject's face.
8. Slowly and gently compress the bulb at a controlled, uniform, steady rate 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.
  9. Immediately stop compressing the bulb and release the partially compressed bulb. No additional smoke is to be generated.
  10. The test subject shall stand approximately 36 inches away from the cloud of smoke.
  11. The test subject shall extend his or her arm to the edge of the smoke cloud with palm facing upward.
  12. 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.
  13. 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.
  14. The test subject shall then immediately step away from the smoke into clean, fresh air.
  15. 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.

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16. The irritant smoke should produce an involuntary reaction (cough or sneeze) by the test subject.
17. 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.
18. 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.
19. Upon the completion of each Sensitivity Check, if the smoke tube has not been consumed and when testing is complete, the administrator shall, with the smoke tube tip pointed away from the administrator and others, slowly compress the pump bulb. When the pump bulb is fully compressed, place a cap over the exposed end of the smoke tube. Do not remove the aspiration bulb pump. Store the partially consumed smoke tube with the cap affixed to one end and the compressed aspirator bulb pump affixed to the other end of the smoke tube.
20. When the smoke tube is consumed, or is being disposed of prior to being consumed, gently remove the aspirator bulb pump from the smoke tube, being careful not to compress the bulb. Turn the bulb upside down over an appropriate waste receptacle and gently shake the bulb to discard any residual material from the irritant smoke tube. Neutralize and dispose of any residual smoke tube material and the smoke tube in accordance with federal, state, and local regulations and laws.

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21. Store the Nextteq Irritant Smoke Tube Kit, the Gastec Irritant Smoke Tubes, and the Nextteq Aspiration Bulb Pump in a safe, secure, dry, cool space away from direct light and out of the reach of children.
22. 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 the Nextteq Irritant Smoke Tube Kit; Gastec Irritant Smoke Tubes; Nextteq Aspiration Bulb Pump; respirator, filter, or associated equipment; the Gastec warnings, specifications, or instructions; the 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 THE NEXTTEQ IRRITANT SMOKE TUBE KIT, GASTEC IRRITANT SMOKE TUBES, NEXTTEQ ASPIRATION BULB PUMP, THIS TEST PROTOCOL, OR THE GASTEC INSTRUCTIONS OR WARNINGS, 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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## **XI. WARRANTY**

### **DISCLAIMER OF WARRANTIES**

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FOR THE TEST SUBJECT. NEXTTEQ'S WARRANTY IS SET FORTH IN NEXTTEQ'S TERMS AND CONDITIONS OF SALE MADE BY NEXTTEQ AND ACCEPTED BY BUYER IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED INCLUDING BUT NOT LIMITED TO ANY OTHER AFFIRMATION OF FACT, RECOMMENDATION, OR PROMISE THAT RELATES TO THE GOODS, THIS DOCUMENT, OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, WHICH ARE EXPRESSLY DISCLAIMED. THIS PRODUCT OR COMPONENT IS ONLY FOR SALE, ONLY FOR USE BY, AND ONLY FOR STORAGE BY A TRAINED, QUALIFIED, TECHNICALLY COMPETENT, AND PROFESSIONAL, COMMERCIAL, INDUSTRIAL, MILITARY, OR GOVERNMENT USER. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION SET FORTH IN NEXTTEQ'S TERMS AND CONDITIONS OF SALE. NEXTTEQ SHALL NOT BE LIABLE FOR DIRECT OR INDIRECT CONSEQUENTIAL, INCIDENTAL, STATUTORY, PUNITIVE, OR OTHER DAMAGES OR LOSS RESULTING FROM THE PROPER OR IMPROPER USE OF EITHER THE PRODUCT OR COMPONENT SOLD BY NEXTTEQ OR ANY INFORMATION OR RECOMMENDATION CONTAINED IN THIS DOCUMENT. THIS LIMITATION OF DAMAGES IS INDEPENDENT OF ANY LIMITATION OF REMEDIES PROVISION AND WILL BE ENFORCEABLE EVEN IF A REMEDY FAILS ITS ESSENTIAL PURPOSE. IF THE USER IS CONFUSED ABOUT THE PROPER USE OF THE NEXTTEQ IRRITANT SMOKE TUBE KIT OR GASTEC IRRITANT SMOKE TUBES, ANY INSTRUCTIONS, WARNINGS, LABELS, SPECIFICATIONS, TEST PROTOCOL, OR THE NEXTTEQ IRRITANT SMOKE TUBE KIT MANUAL, THE USER SHOULD CALL NEXTTEQ FOR ASSISTANCE PRIOR TO USING THE PRODUCT. NEXTTEQ CAN BE CONTACTED AT ONE OF THE FOLLOWING TELEPHONE NUMBERS: TOLL FREE 877-312-2333 OR LOCAL NUMBER 813-249-5888.

## **LIMITATION OF DAMAGES**

THE PARTIES HERETO AGREE THAT BUYER'S SOLE AND EXCLUSIVE DAMAGES FOR SELLER'S BREACH SHALL BE LIMITED TO THE PRICE OF THE GOODS SOLD AND THAT ALL OTHER DAMAGES, INCLUDING BUT NOT LIMITED TO, CONSEQUENTIAL, INCIDENTAL, EXEMPLARY, PUNITIVE, AND

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STATUTORY DAMAGES ARE EXCLUDED. THE PARTIES FURTHER AGREE THAT THIS LIMITATION OF DAMAGES PROVISION IS INDEPENDENT OF THE LIMITATION OF REMEDIES PROVISION AND WILL BE ENFORCEABLE EVEN IF A REMEDY FAILS ITS ESSENTIAL PURPOSE.

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THE PARTIES HERETO AGREE THAT BUYER'S SOLE AND EXCLUSIVE REMEDY AGAINST THE SELLER SHALL BE, AT SELLER'S OPTION, (1) REPAIR OF THE DEFECTIVE GOODS (2) REPLACEMENT OF THE DEFECTIVE GOODS OR (3) REPAYMENT OF THE PURCHASE PRICE OF THE DEFECTIVE GOODS. IF SELLER IS UNABLE TO PROVIDE ANY SELECTED REMEDY, SELLER MAY ELECT TO PROVIDE BUYER WITH ANY REMAINING EXCLUSIVE REMEDY UNTIL ALL EXCLUSIVE REMEDIES HAVE BEEN EXHAUSTED. THE NUMBER OF REMEDIES PROVIDED AND THE ORDER IN WHICH THE REMEDIES ARE PROVIDED SHALL BE DETERMINED SOLELY BY THE SELLER. THIS EXCLUSIVE REMEDY IS ONLY AVAILABLE TO THE BUYER IF BUYER RETURNS THE DEFECTIVE GOODS TO SELLER FOR INSPECTION AND SELLER'S INSPECTION DETERMINES A DEFECT EXISTS AND THAT THE DEFECT WAS NOT CAUSED IN WHOLE OR IN PART BY THE BUYER OR BY ANYONE'S USE, OPERATION, STORAGE, MAINTENANCE, REPAIR, HANDLING, OR TRANSPORTATION OF THE DEFECTIVE GOODS WHICH WAS INCONSISTENT WITH SELLER'S OR THE MANUFACTURER'S SPECIFICATIONS, INSTRUCTIONS, OR WARNINGS.

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