

NEXTTEQ LLC 8406 Benjamin Rd., Suite J Tampa, Florida 33634 USA Toll-free Tel: (877) 312-2333 / (813) 249-5888 Toll-free Fax: (877) 312-2444 / (813) 249-0188		MSDS P/N 90040 Rev. A 3/07 Revision: March 20, 2007		
Part I – Material Identification				
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: <ul style="list-style-type: none"> a) Tin tetrachloride, Tin (IV) Chloride b) Air Flow Indicator Tube c) Irritant Smoke Generator 				
Formula: SnCl ₄ Chemical Family: Metal Chloride				
Part II – Ingredients & Hazards				
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		
		<u>Tin Inorganic Compounds</u> ACGIH-TLV: TWA 2 mg/m ³ OSHA PEL: 2 mg/m ³		
		<u>Hydrogen Chloride</u> 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".		
Part III – Physical Data				
<u>Stannic Chloride</u>		<u>Hydrogen Chloride</u>		
Appearance: Colorless liquid Boiling Point: 237.2°F Melting Point: -22.36°F Volatility: N/A Specific gravity: 2.23 g/cm ³ (at 68°F) Solubility: NA N/A = Not Available		Appearance: Colorless to slightly yellow gas, irritating odor Boiling Point: -121°F Melting Point: NA Specific Gravity: N/A Vapor Pressure: 40.5 atm Solubility in Water: 37% by weight @ room temperature Vapor Density: (Air=1) = 1.268 N/A = Not Available		
Part IV – Fire & Explosive Data				
Flash Point & Method	Auto Ignition Temp. °F	Flammability Limits In Air Volume %	Lower	Upper
N/A	N/A		N/A	N/A
Extinguishing Media: Use extinguishing media suitable for the material that is burning.				
Special Firefighting Produces: 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				
Part V – Health Hazard Information				
Exposure Limits Information: <u>Tin Inorganic Compounds</u> ACGIH-TLV: TWA 2 mg/m ³ OSHA PEL: 2 mg/m ³		<u>Hydrogen Chloride</u> 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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Part V – Health Hazard Information (continued)	
Toxicological Information: <u>Stannic Chloride</u> 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.	<u>Hydrogen Chloride</u> 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 & First Aid Procedure: Eyes: Immediately flush eyes with copious amounts of clean running water for at least 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 15 minutes. Get medical help in cases of large area 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 test 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, ANY INSTRUCTIONS, WARNINGS, LABELS, OR THE MANUAL, PRIOR TO USING THIS PRODUCT THE USER SHOULD CONTACT NEXTTEQ LLC FOR ASSISTANCE AT ONE OF THE FOLLOWING: TOLL-FREE TELEPHONE NUMBER (877) 312-2333, LOCAL TELEPHONE NUMBER (813) 249-5888, TOLL FREE FAX NUMBER (877) 312-2444, LOCAL FAX NUMBER (813) 249-0188.	
Part VI – Reactivity Information	
Stability: 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.	
Part VII – Spill, Leak & Disposal Procedures	
Spill Procedure: Does not apply. Broken Tube Cleanup: Broken glass tubes 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 law and regulations, including but not limited to EPA regulations.	
Part VIII – Special Protection Information	
Protective Equipment: For irritant smoke qualitative fit testing, wear respiratory protection in accordance with 29 CFR 1910.134 and 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 IX – Special Precautions & Comments

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 strictly in accordance with the manufacturer's instructions, specifications, and warnings and only with the manufacturer's specified parts, components, and accessories.

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 commercial, industrial, military, or government users.

Handling & 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.
- 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.

Part X – DISCLAIMER OF WARRANTIES

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<p align="center">Part XI - LIMITATION OF DAMAGES</p>	
<p>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 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.</p>	
<p align="center">Part XII – LIMITATION OF REMEDIES</p>	
<p>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.</p>	