

Straughan Technical Distribution, LLC 15031 Woodham Dr. Suite 340 Houston, Texas 77073 Tel: (281) 209-2333		MSDS Number 101 Revision: 7/00 Part Number: 9501 Description: Smoke Tube Page: 1 of 4		
Part I – Material Identification				
Material Name: Smoke Tube				
Chemical Name & Synonyms: a) Air Flow Indicator Tube b) Irritant Smoke Tube c) Gastec Smoke Tester Tube d) VeriFit Tube – VeriFit is a registered trade mark of Straughan Technical Distribution LLC.				
Chemical Family: Metal Chloride Formula: SnCl ₄				
Part II – Ingredients & Hazards		%	TLV	
Stannic chloride reacts with ambient humidity to liberate a white smoke consisting of HCl and tin compounds.		Ca 100 (Comb.)	5 ppm ceiling for HCl. 2 mg/M ³ for tin compounds.	
Part III – Physical Data				
Physical Data for HCl Boiling Point, 1 ATM, °F (°C): -121 (-85) Vapor Pressure, mm Hg: 41.5 @ 20 °C Solubility in Water: 37% by weight @ room temperature		Specific Gravity: N/A Evaporation Rate: N/A		
Vapor Density (Air=1)=				
Appearance & Odor; Hydrogen chloride is a colorless gas with a pungent odor. It fumes strongly in moist air forming white hydrochloric acid fume. The emitted tin compound has a strong irritating odor.				
Part IV – Fire & Explosive Data				
Flash Point & Method	Auto Ignition Temp. °C	Flammability Limits In Air Volume %	Lower	Upper
None	None		None	None
Extinguishing Media: Suitable for surrounding fire. Special Firefighting Produces: Firefighters should use SCBA units to protect against possible toxic decomposition products and wear protective clothing. Unusual Fire & Explosion Hazards: Fire encompassing the tubes will emit toxic fumes of chlorides.				

Part V – Health Hazard Information

Applicable TLV's: HCl= 5 ppm ceiling (1988-89 TLV Book). OSHA PEL= 5ppm ceiling
Tin compounds= 2 mg/m³ as tin (1988-89 TLV Book). OSHA PEL= 2 mg/M³

Effects of Overexposure: Hydrogen chloride gas (and the acid fume) is corrosive to all human tissue. Prolonged inhalation of gas concentrations moderately above the TLV can damage the teeth and irritate nasal passages. Inhalation of higher concentrations (above 50 ppm) for short period of time can cause choking and coughing, and produce severe irritation and damage to the mucous membranes of the upper respiratory tract. The NIOSH-recommended IDLH* level is 100 ppm. HCl can cause severe irritation and tissue burns. (Anhydrous HCl is more dangerous than the acid mist, since it has an additional dehydrating effect on tissues.) 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 large amounts of running water for at least fifteen minutes, occasionally lifting the lower and upper lids to flush the area under the lids. Contact a physician.

Skin: Flush the affected areas with large amounts of running water for at least fifteen minutes. Get medical help in case of large area contact or if irritation persists.

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

Swallowed: If material containing this chemical is swallowed get medical help immediately.

ASSISTANCE: IF THE USER IS CONFUSED ABOUT THE PROPER USE OF THE SMOKE TUBE, ANY INSTRUCTIONS, WARNINGS, LABELS OR THE MANUAL THE USE SHOULD CONTACT STTAUGHAN TECHNICAL DISTRIBUTION LLC (STD) FOR ASSISTANCE PRIOR TO USING THE PRODUCT. STD'S TOLL FREE TELEPHONE AND FAX NUMBER ARE : (877) 312-2333 AND (877) 312 2444.

Part VI – Reactivity Information

Stability: HCl is a stable compound. It does not undergo hazardous polymerization, however HCl can catalyze some polymerization of other compounds.

Conditions to avoid: Incompatible materials include alkaline, amines, metal oxides, hydroxides, copper, brass, zinc, and other metals.

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

Part VII – Spill, Leak & Disposal Procedures

Spills Procedure: Does not apply

Disposal Procedure: Soak used tubes in water and neutralize with sodium carbonate or equivalent alkaline substance. Dispose tubes via landfill. Consult local authorities to assure compliance with local, state, and federal regulations.

Part VIII – Special Protection Information

Protective Equipment: No respiratory protection is required during normal use. Local ventilation is adequate. Safety glasses with side shields should be worn to minimize eye contact. Safety gloves are not necessary for normal use, although skin contact with HCl and the broken glass tubes should be avoided.

When conducting irritant smoke respirator fit testing, test only respirator and cartridge types specified in the appropriate test protocol. Persons conducting such tests should use a respirator suitable for dust, fumes, mists and acid gases if local ventilation is not adequate to prevent repeated exposure.

Part IX – Special Precautions & Comments

Dangerous To Life: Read all instructions, warnings and labels before attempting to use this product. Use this product strictly in accordance with the manufacturer's instructions, warnings and only with the manufacturer's specified parts and accessories.

Class of Users: This product is only to be sold to, only for use by, and only for storage by professional industrial or commercial users.

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

Other Precautions: Avoid eye and skin contact with smoke. Do not directly breath the smoke. Avoid the build up 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. After using the smoke tube or being exposed to the smoke, scrub face, hands, and any area exposed to the smoke with soap and running water before eating, drinking, smoking, applying cosmetics, or inserting or removing contact lenses. Use NIOSH approved HEPA plus acid gas filters/respirators or equivalent filters/respirators specified by NIOSH when using this product for fit testing.

Do not use this product for respirator fit testing or a "Sensitivity Check" if the test subject has pre-existing respiratory, cardiovascular, or bronchial medical condition, is under a physician's care for a respiratory, cardiovascular, or bronchial problems or is allergic to hydrogen chloride, tin tetrachloride, tin compounds, or metal chloride.

Part X – Disclaimer of Warranties

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