


## SAFETY DATA SHEET

SECTION 1a: IDENTIFICATION	
<b>SENSIDYNE, LP.</b> 1000 112 <sup>th</sup> Circle North, Suite 100 St. Petersburg, Florida, USA 33716 800/451-9444, 727/530-3602 FAX 727-539-0550 info@sensidyne.com	MSDS #5100  Air Flow Indicator Tubes

SECTION 1b: CHEMICAL IDENTIFICATION
<b>Material Name:</b> Air Flow Indicator Tubes <b>Chemical Name &amp; Synonyms:</b> Smoke tubes, Stannic Chloride, CAS No. 7646-78-8 <b>Chemical Family:</b> Metal Chloride <b>Formula:</b> SnCl <sub>4</sub>

SECTION 2: HAZARDS IDENTIFICATION
 <p style="text-align: center;">Warning.</p> <p>Causes skin irritation and serious eye irritation by contact with smoke. Harmful if inhaled. Stannic chloride reacts with ambient humidity to liberate a white smoke consisting of HCl and tin compounds.</p>

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS			
	%	OSHA PEL	ACGIH TLV (2013)
Stannic chloride	ca 100 (comb.)	5 ppm ceiling for HCl  2 mg/m <sup>3</sup> for tin compounds	2 ppm ceiling for HCl  2 mg/m <sup>3</sup> for tin compounds

SECTION 4: FIRST AID MEASURES
<p><b>Eyes:</b> Flush immediately with running water for at least 15 minutes, including under eyelids. Contact a physician.</p> <p><b>Skin:</b> Flush affected areas with running water. Get medical help in case of large area contact or if irritation persists.</p> <p><b>Inhalation:</b> 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.</p>

SECTION 5: FIREFIGHTING MEASURES
<p><b>Extinguishing Media:</b> Suitable for surrounding fire.</p> <p><b>Special Firefighting Procedures:</b> Fire fighters should wear SCBA units to protect against possible toxic decomposition products.</p> <p><b>Unusual Fire &amp; Explosion Hazards:</b> Fires encompassing the tubes will emit toxic fumes of chlorides.</p>

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Spills Procedure:** Does not apply.

**SECTION 7: HANDLING AND STORAGE**

**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 breathe smoke. Use only as directed. Use only in well ventilated areas. Wash hands prior to eating, drinking, smoking or applying cosmetics. Avoid cuts from broken ends of glass tubes.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Hydrogen Chloride**

Ceiling: 5 ppm (7 mg/m<sup>3</sup>) from OSHA [United States, 2013] Inhalation.

Ceiling: 2 ppm (2.98 mg/m<sup>3</sup>) from ACGIH [United States, 2013] Inhalation.

**Tin compounds**

TWA: 2 mg/m<sup>3</sup> from OSHA [United States, 2013] Inhalation.

TWA: 2 mg/m<sup>3</sup> from ACGIH [United States, 2013] Inhalation.

**Protective Equipment:** No respiratory protection is required during normal use as an HVAC air flow indicator except in tight spaces. Local ventilation is adequate as long as the smoke can be avoided. 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.

If used for respirator fit testing, follow OSHA 29CFR, 1910.134 Irritant Smoke Protocol found in Appendix A of that document under "Fit Testing Procedures - General Requirements" and "Irritant Smoke Protocol". Use only as directed in well ventilated areas per the OSHA protocol. Do not use inside concentration hoods, tents or other enclosures designed for other fit test methods. Test only the respirator types specified in the OSHA protocol. Test only subjects that have been properly fitted per the OSHA protocol and have passed the respirator manufacturer's recommended negative or positive pressure qualitative test. Conduct any sensitivity screening tests only per the OSHA protocol, using only a weak concentration of the smoke.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**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.

**Boiling Point, 1 Atm, °F (°C):** -121 (-85)\*

**Specific Gravity:** 1.10 (H<sub>2</sub>O=1.0)

**Vapor Pressure, mm Hg:** 41.6 @ 20°C\*

**Evaporation Rate:** N/A

**Solubility in Water:** 37% by weight @ rt\*

\*Physical data for HCl

**Flash Point:** None

**Auto Ignition Temperature:** None

**Flammability Limits:** N/A

**SECTION 10: STABILITY AND REACTIVITY**

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

**Conditions to Avoid:** Incompatible materials include alkalines, metal oxides and metals.

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

**SECTION 11: TOXICOLOGICAL INFORMATION**

LC<sub>50</sub>: 2,300 mg/cu m/10 min rat, inhalation for SnCl<sub>4</sub> dust and mist. [Lewis, R.J. Sax's Dangerous

Properties of Industrial Materials. 9th ed. Volumes 1-3. New York, NY: Van Nostrand Reinhold, 1996., p. 3176]

**SECTION 12: ECOLOGICAL INFORMATION**

Not available

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Disposal Procedure:** Soak used tubes in water and neutralize the water with sodium carbonate or equivalent alkaline substance. Dispose tubes via landfill. Consult local authorities to assure compliance with local, state and federal regulations for small scale disposal of tin compounds.

**SECTION 14: TRANSPORT INFORMATION**

**DOT Classification:** Not available

**SECTION 15: REGULATORY INFORMATION**

All ingredients are listed on the following Government Inventory Lists: Australia AICS, Canada DSL, China IECSC, European Union EINECS, Japan ENCS, Korea KECI/KECL, Mexico INSQ, New Zealand NZIoC, Philippines PICCS, United States TSCA Section 8(b).

**SECTION 16: OTHER INFORMATION**

INFORMATION CONTAINED IN THIS DOCUMENT IS OFFERED WITHOUT CHARGE SOLELY FOR USE BY TECHNICALLY QUALIFIED PERSONNEL AT THEIR DISCRETION AND RISK. READ AND UNDERSTAND THE SENSIDYNE OPERATION AND MAINTENANCE MANUAL AND ALL WARNING LABELS BEFORE USING SENSIDYNE, INC.'S PRODUCTS. ALL STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS (HEREINAFTER REFERRED TO AS "INFORMATION") CONTAINED HEREIN ARE BASED UPON TESTS AND DATA WHICH SENSIDYNE BELIEVES TO BE RELIABLE, BUT THE ACCURACY OR COMPLETENESS THEREOF IS NOT GUARANTEED BY SENSIDYNE, INC. GOODS OR ANY INFORMATION CONTAINED HEREIN. SENSIDYNE DOES NOT WARRANT OR GUARANTEE, INCLUDING BUT NOT LIMITED TO, EXPRESS OR IMPLIED WARRANTIES, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE EXPRESSLY DISCLAIMED, THE ACCURACY OR COMPLETENESS OF ANY INFORMATION CONTAINED HEREIN.

SDS Revised: September 24, 2013