

IRRITANT SMOKEMATERIAL SAFETY DATA SHEET

Used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200

Prepared by: Willson Technical Service Department August 2, 1989

SECTION 1 IDENTITY

Product Identification: Irritant Smoke Tubes
 Chemical Name: Stannic Chloride
 Synonyms: Air Flow Indicator Tubes, Smoke Tubes, Tin Chloride

SECTION 2 INGREDIENTS AND HAZARDS

Stannic chloride reacts with ambient humidity to liberate a white smoke consisting of HCL and tin compounds.

ca 100 (comb.)

OSHA PEL: 5 ppm ceiling for HCL, 2 mg/M³ for tin compounds

SECTION 3 PHYSICAL AND CHEMICAL CHARACTERISTICS

Vapor Pressure: 41.6mm Hg @ 20° C * Specific Gravity: N/A

Boiling Point: -85°C / -121°F @ 1 atm*

Evaporation Rate: N/A

Solubility in Water: 37% by weight @ rt*

* Physical data for HCL

Appearance / Odor: Hydrogen chloride is a colorless gas with a pungent odor. It reacts strongly in moist air forming white hydrochloric acid mist. The emitted tin compound has a strong irritating odor.

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash Point / Test Method: None

Flammable Limits: None

Extinguishing Method: Suitable for surrounding fire.

Special Procedures: Firefighters should wear full facepiece positive pressure self-contained breathing apparatus to protect against possible toxic decomposition products. Fires encompassing the tubes will emit toxic fumes of chlorides.

SECTION 5 REACTIVITY

N.F.P.A. Reactivity Rating: 0 (Stable)

Materials to avoid: Alkalines, metal oxides and metals.

SECTION 6 SPILL PROCEDURES AND DISPOSAL

Spills: 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.

SECTION 7

HEALTH HAZARDS

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 a 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 (immediately dangerous to life and health) 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 tissue.) 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: Flush immediately with running water for at least 15 minutes, including under the eyelids. Contact a physician!

Skin: Flush affected areas with running water. 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.

SECTION 8

CONTROL MEASURES

Use general and/or local ventilation to reduce concentration below PEL's. If this is not feasible, use proper respiratory protection (See Below). When handling chemical, use good hygiene practices to avoid exposure.

SECTION 9

PERSONAL PROTECTIVE DEVICES

RESPIRATORY: Use appropriate NIOSH / MSHA approved respirators when concentrations exceed PEL's.

Escape - Full facepiece HEPA gas mask or self-contained breathing apparatus.

Unknown concentration, fire fighting, any contaminant concentration exceeding IDLH or with an oxygen level less than 19.5%, and/or confined spaces: Positive pressure full facepiece self-contained breathing apparatus, or full facepiece positive pressure supplied-air respirator with egress bottle.

EYE / FACE: Wear appropriate protection to avoid eye contact with mists.

SKIN: Wear gloves and / or protective clothing where skin contact is possible.

The information provided in this MSDS has been compiled based on information, data and studies available at this time.

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