

SAFETY DATA SHEET

1. IDENTIFICATION AND GENERAL INFORMATION

P/N#: 2050, 2050-01, 2055
Nomenclature: Irritant Smoke Tube
Recommended use of the chemical & Restrictions on use:
Uses: Laboratory Chemicals, Testing
Company Name: Allegro Industries
Address: 1360 Shiloh Church Rd
 Piedmont, SC 29673
 864-846-8740
 Chemtrac: 800-424-9300

2. HAZARDS IDENTIFICATION

Health Hazard Data:	<u>Component</u>	<u>SnCl4</u>	<u>Toxic Oxides and Compounds</u>	<u>HC1</u>
	U.S. 8hr TWA	N/A	2mg/m ³ as Sn	5ppm Ceiling OSHA 2ppm Ceiling ACGIH
	Carcinogen	Inadequate data	Inadequate data	No

Physical Dangers: Vapors are corrosive to skin and overexposure can result in serious injury or death.
Chemical Dangers: N/A
Routes of Entry: Inhalation, skin, and ingestion.
Target Organs: N/A

Classification:

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3

Label Elements:

Hazard Symbol:



Label Hazard Warning: Warning

Hazard statement(s): Causes skin irritation
 Causes serious eye irritation
 May cause respiratory irritation

Precautionary Statement(s):

Avoid breathing
 Wash skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Use only outdoors or in a well-ventilated area
 Wear protective gloves/ eye protection/ face protection
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell
IF ON SKIN: Wash with plenty of soap and water
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Call a POISON CENTER or doctor/ physician if you feel unwell.
 Specific treatment (see supplemental first aid instructions on this label).
 Rinse mouth.
 If skin irritation occurs: Get medical advice/ attention.
 If eye irritation persists: Get medical advice/ attention.
 Take off contaminated clothing and wash before reuse.
 Dispose of contents/ container to an approved waste disposal plant.

Notes: Users are not exposed to the hazardous components until the tubes are broken. Read, understand and comply with all labels, warnings and instructions accompanying these tubes before use. Failure to comply may cause serious injury or death.

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3. COMPOSITION

SUBSTANCE

Product Name: Smoke Generating Tubes
Chemical Family: N/A
Synonyms: Tin (IV) Chloride, Tin tetrachloride, Libavius Fuming Spirit
Ingredient: Stannic Chloride Inert ingredients
CAS Number: 7646-78-8 N/A

MIXTURES

Percent: 5-15% 85-95%
EC No.: 231-588-9 N/A
TWA: N/A N/A
Molecular Weight: N/A N/A
Molecular Formula: SnCl₄ N/A
Notes: N/A N/A

4. FIRST AID MEASURES

Inhalation: If inhaled enough to cause coughing, remove victim to fresh air. If coughing persists, provide oxygen and contact a physician.
Skin Contact: If smoke contacts skin for a prolonged time, flush with copious amounts of water for 15 minutes and contact a physician.
Eye Contact: Immediately flush with water for 15 minutes and contact a physician.
Ingestion: Wash mouth out with water. Do not induce vomiting. Seek medical attention.
Most Important Symptoms or Effects: Symptoms of inhalation exposure include severe coughing, wheezing, shortness of breath, headaches, nausea, and vomiting. Exposure to skin causes irritation or tissue burns. Eye contact can be corrosive. Ingestion may be fatal
Chronic Exposure and Acute Exposure: Stannic Chloride is considered Highly Toxic (USA) or Toxic (EU) and is corrosive to the skin, eyes, and respiratory tract. Contact with moisture releases hydrochloric acid fumes, which is also highly corrosive. Contact with moist air also releases tin compounds, which may be toxic. Symptoms of inhalation exposure include severe coughing, wheezing, shortness of breath, headaches, nausea, and vomiting. Produces lung irritation and damage to the mucous membranes of the upper respiratory tract. In extreme cases, pulmonary edema can occur. Exposure to skin causes irritation or tissue burns. May be fatal if swallowed or on excessive contact.

Aggr. of Pre-Ex Cond: N/A

5. FIRE FIGHTING MEASURES

Fire Hazards: Stannic chloride and HCl are non-flammable and have no known upper and lower explosion limits. Excessive heat may be released on contact with water. Fire hazard caused indirectly by release on HCl of exposure of broken tubes to moist air.
Fire Extinguisher: Dry powder.
Explosion: N/A
Volatile (% by volume): N/A
Exp. Limits (Vol % in air): N/A
Special Fire Fighting Proc: N/A
PPE for Fire Fighters: Wear SCBA and protective clothing.
Notes: None.

6. ACCIDENTAL RELEASE MEASURES

Procedure for Spill/Leak: Contain any large leaks using a plastic vessel. Cover with solid absorbent such as vermiculite or alkaline absorbent. Dilute and wash with plenty of water or soapy water. Dispose of washings and/or solids according to local regulations regarding hazardous waste. Each tube contains ~0.7 g SnCl₄
Waste Disposal: None suggested.

7. HANDLING AND STORAGE

Storage: Store in the box at <40°C when not in use.
Shelf Life: N/A
Incompatibilities: Bases, ethylene oxide, water alcohols, metals.
PPE: N/A
Precautions for Safe: Keep container protected from "glass" breakage.

8. EXPOSURE CONTROLS

PPE: Use only the pump(s) at the flow rates specified in OSHA CFR 1910.134 and 29 CFR 1910.139. If the pump is operated at non-specified flow rates it could increase the smoke and fume concentrations and cause serious injury or death.
Inhalation: N/A
Skin: Wear safety gloves to protect against chemical exposure and flying glass.
Eye: Wear safety glasses to protect against chemical exposures and flying glass.
Ingestion: N/A
Ventilation: Use only in well-ventilated area.
Engineering Controls: N/A
Work/Hygienic Practices: Wash hands after use.
Exposure Limits: N/A

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9. PHYSICAL AND CHEMICAL PROPERTIES

Component:	SnCl ₄	HCl	Inert Ingredients
Color/Appearance/Odor:	Slightly yellowish clear liquid	Colorless Gas	Inorganic solids
Boiling Point:	114°C	-85.1°C	N/A
Odor Threshold:	N/A	N/A	N/A
pH:	N/A	N/A	N/A
Freezing Point:	N/A	N/A	N/A
Boiling Range:	114°C	-85.1°C	N/A
Flash Point:	N/A	N/A	N/A
Upper Lower Flammability or Explosive Limits:	N/A	N/A	N/A
Partition Coefficient:	N/A	N/A	N/A
Flammability:	N/A	N/A	N/A
Decomposition Temperature:	N/A	N/A	N/A
Viscosity:	N/A	N/A	N/A
Autoignition Temperature:	N/A	N/A	N/A
Melting Point:	-33°C	-114.2°C	N/A
Specific Gravity (H ₂ O=1):	N/A	N/A	N/A
Refractive Index:	N/A	N/A	N/A
Relative Density:	N/A	N/A	N/A
Evaporative Rate :	N/A	N/A	N/A
Water Content:	N/A	N/A	N/A
Vapor Density:	N/A	1.268 (air=1000)	N/A
Density:	2.226 g/cc	N/A	N/A
Vapor Pressure:	20 mm Hg @ 20°C	41.6 mmHg @20°C	N/A
Solubility in Water:	Decomposes	37% by weight	N/A

10. STABILITY AND REACTIVITY

Stability:	Reacts with water and moisture in the air to form a smoke of HCl and tin oxychlorides.
Chemical Stability:	Packaged in glass vial
Hazardous Decomposition Products:	N/A
Hazardous Polymerization:	Will not occur, but HCl may catalyze the polymerization of other compounds.
Incompatibilities:	Bases, ethlene oxide, water alcohols, metals.
Conditions to Avoid:	Do not expose to air until use.
Materials to Avoid:	N/A

11. TOXICOLOGICAL INFORMATION

Health Effects:	N/A
Routes of Exposure:	Inhalation, skin, and ingestion.
Symptoms related to the physical, chemical and toxicological characteristics:	No data available
Delayed and immediate effects and also chronic effects from short and long term exposure:	No data available
Numerical measures of toxicity:	No data available
Oral LD50:	N/A
Dermal LD50:	N/A
Human Lethal Dose:	N/A
Notes:	None.

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Mobility in the soil:	No data available
Other adverse effects:	No data available

13. DISPOSAL CONSIDERATIONS

Dispose of washings and/or solids according to local regulations regarding hazardous waste. Each tube contains ~0.7 g SnCl₄ before use.

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14. TRANSPORT INFORMATION

Environmental Hazards: Caution due to glass packaging
Guidance on transport in bulk: Caution due to glass packaging
Special Precautions: Caution due to glass packaging
Proper Shipping Name: N/A
Hazard Class: N/A
Transport Emergency Card: N/A
Packing Group: N/A
UN Number: UN1827
Reportable Quantity: N/A
Notes: None.

15. REGULATORY INFORMATION

TSCA Registered: N/A
FDA Approved: N/A
ICSC: N/A

16. OTHER INFORMATION

- For use in respirator fit testing according to OSHA 29 CFR 1910.134 (App A) and OSHA 1910.139.
- Use only the pump(s) at the flow rates specified in OSHA CFR 1910.134 and 29 CFR 1910.139. If the pump is operated at non-specified flow rates it could increase the smoke and fume concentrations and cause serious injury or death.

Precautions with using product for Respirator Fit Testing:

- Eyes should be kept tightly closed during fit testing.
- DO NOT inhale smoke directly.
- DO NOT use in a confined space.
- DO NOT direct smoke stream directly at the skin during fit testing.
- DO NOT use under a respirator fit testing hood or other enclosed space, because fume concentrations may build up to levels that can cause serious injury or death.
- DO NOT use for fit testing on persons with pre-existing respiratory or related medical conditions or are allergic to tin compounds or hydrochloric acid.

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Rev. I

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