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:
Component SnCl4 Toxic Oxides and Compounds HCl
U.S. 8hr TWA N/A 2mg/m³ as Sn 5ppm Ceiling OSHA
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)

<table>
<thead>
<tr>
<th>Serious eye damage/eye irritation</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

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.
SAFETY DATA SHEET

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: SnC14 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 skin 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.
Symptoms of inhalation exposure include severe coughing, wheezing, shortness of breath, headaches, nausea, and vomiting.
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
Explosion: 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 SnC14
Waste Disposal: None suggested.

7. HANDLING AND STORAGE

Storage: Store in the box at <40°C when not in use.
Incompatibilities: Bases, ethylene oxide, water alcohols, metals.
PPE: N/A
Precautions for Safe Use: 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

Date Revised: 9/08/15
9. PHYSICAL AND CHEMICAL PROPERTIES

Component: SnC1\(_4\) 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
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, ethylene 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:
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 SnC1\(_4\) before use.
### 14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Environmental Hazards:</th>
<th>Caution due to glass packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidance on transport in bulk:</td>
<td>Caution due to glass packaging</td>
</tr>
<tr>
<td>Special Precautions:</td>
<td>Caution due to glass packaging</td>
</tr>
<tr>
<td>Proper Shipping Name:</td>
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<tr>
<td>Hazard Class:</td>
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<tr>
<td>Transport Emergency Card:</td>
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<tr>
<td>Packing Group:</td>
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<tr>
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<td>UN1827</td>
</tr>
<tr>
<td>Reportable Quantity:</td>
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</tr>
<tr>
<td>Notes:</td>
<td>None</td>
</tr>
</tbody>
</table>

### 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.

Revised 9/08/15  Rev. I

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