

MATERIAL SAFETY DATA SHEET  
CFR 1910.1200 OSHA Hazard  
Communication Rule Format

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NOTE: This product contains Stannic Chloride, a substance subject to the Pennsylvania Worker and Community Right-To-Know Act.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 5607 Ventilation Smoke Tube Assembly  
MSA P/N 5645 Ventilation Smoke Tubes (pkg. of 12)

CHEMICAL NAME - Stannic Chloride Sorbed on Pumice

ADDITIONAL IDENTITIES - Smoke Tubes

FORMULA -  $\text{SnCl}_4$  on Pumice

APPLICABLE CHEMICAL CONTENTS

|                                  | Z     | TLV                       |
|----------------------------------|-------|---------------------------|
| Stannic Chloride (CAS 7646-78-8) | 50-60 | $2\text{mg}/\text{m}^3$ * |
| Pumice (CAS 1332-09-8)           | 40-50 | $10\text{mg}/\text{m}^3$  |

\*As inorganic tin compounds

Each tube contains approximately 2 gms.  $\text{SnCl}_4$

**CAUTION:**  $\text{SnCl}_4$  reacts with moisture in air yielding tin oxides smoke, and hydrochloric acid. This mixture is irritating to the eyes and mucous membranes. Avoid contact with smoke puffs pumped from the tube.

Tube effluent contains:

$\text{HCl}$  (CAS 7647-01-0)  
Tin Oxides (no CAS number known)

$\text{SnCl}_4$  (CAS 7646-78-8)

| TLV                                                  |
|------------------------------------------------------|
| $7\text{mg}/\text{m}^3$ Ceiling                      |
| $2\text{mg}/\text{m}^3$ (as inorganic Tin Compounds) |
| $2\text{mg}/\text{m}^3$ (as inorganic Tin Compounds) |

ACGIH TLVs 1987-88

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**PHYSICAL AND CHEMICAL PROPERTIES**

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APPEARANCE AND ODOR - Gray to Black Granules, Acid Odor  
BOILING POINT -  $\text{SnCl}_4$  235° F  
VAPOR PRESSURE -  $\text{SnCl}_4$  10-20mm HG at Room Temp.  
VAPOR DENSITY (AIR = 1) - >>1  
SOLUBILITY IN WATER -  $\text{SnCl}_4$  soluble decomposes

SPECIFIC GRAVITY ( $\text{H}_2\text{O}=1$ ) - >1  
PERCENT VOLATILE BY VOLUME - Approx. 50%

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**PHYSICAL HAZARD INFORMATION**

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PHYSICAL HAZARD -  $\text{SnCl}_4$  is strongly acidic and reacts with water vapor yielding tin oxides smoke and corrosive hydrochloric acid mixture.

CONDITIONS OR MATERIALS TO AVOID - Avoid strong bases, alcohols, ethylene oxide, alkyl nitrates, and amines.

FLASH POINT -  $\text{SnCl}_4$  is not flammable. LEL N/A UEL N/A

EXTINGUISHING MEDIA - As needed for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES - Wear impervious covering and self-contained pressure demand breathing apparatus with full facepiece.

UNUSUAL FIRE AND EXPLOSION HAZARDS - Tubes may rupture and emit toxic fumes and dense smoke under fire conditions. Avoid contact with run-off water which may be acidified by leached tube contents.

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**HEALTH HAZARDS**

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HEALTH HAZARDS - Corrosive, Toxic, Irritant  
 $\text{SnCl}_4$ : INH Rat LC50 2300mg/m<sup>3</sup> 10 minutes  
HCl: INH Human LCLo 1300ppm 30 minutes

SIGNS AND SYMPTOMS OF EXPOSURE - Eye, skin, and respiratory system irritation, coughing, shortness of breath, headache, nausea, vomiting. Direct contact with liquid  $\text{SnCl}_4$  produces acid burns.

PRIMARY ROUTES OF ENTRY: Eyes, nose, mouth, skin

TARGET ORGANS: Eyes, mucous membranes, skin

N/A - Not Applicable

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE - No information

EXPOSURE LIMITS - See page 1

CARCINOGENICITY DATA - Not listed in NIOSH RTECS.

EMERGENCY AND FIRST AID PROCEDURES -

Smoke puff generation is under manual control of the user by actuation of a squeeze bulb and overexposure is unlikely under intended conditions of use. First aid procedures follow should overexposure somehow occur.

Eyes: Remove victim from exposure. Flush eyes with water for 15 minutes holding eyes open and raising eyelids to flush underlid areas. SEE A PHYSICIAN IMMEDIATELY.

Inhalation: Remove from exposure. Give oxygen if breathing is difficult. Give artificial respiration if breathing has stopped. GET MEDICAL ATTENTION IMMEDIATELY

Ingestion: If tube contents are somehow ingested, give 2 glasses of water to dilute chemical. Do not induce vomiting. GET MEDICAL ATTENTION IMMEDIATELY.

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SAFE HANDLING AND USE

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HYGIENIC PRACTICES - Wash hands after using product.

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT - Not Applicable

PROCEDURES FOR SPILL OR LEAK CLEANUP -

If contents of a tube are released, leave area until smoke generation subsides. Avoid skin contact with spilled material and avoid breathing any smoke generated. Fill a bucket 3/4 full of water and add 1 ounce of sodium bicarbonate. Sweep up the tube and spilled contents and place in the bucket overnight to completely deactivate remaining chemical. Filter solids from water and dispose to trash. Neutralized water can be poured down drain.

WASTE DISPOSAL - Tape over ends of exhausted tubes and dispose in accordance with local, state and federal regulations.

STORAGE - Store tubes in a cool dry location protected from crushing and impact forces.

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CONTROL MEASURES

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PERSONAL PROTECTIVE EQUIPMENT - Due to the limited amount of  $\text{SnCl}_4$  per tube and the control smoke release rate, use of personal protective equipment is not indicated under anticipated conditions of use. The user is cautioned to avoid breathing the tube emissions which are irritant.

ENGINEERING CONTROLS - Not Applicable.

WORK PRACTICES: This product is for use in determination of direction and velocity of ventilation air currents. Avoid breathing emissions from tube.

DATE OF PREPARATION - January 1988

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