

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Tin(IV) chloride pentahydrate

Product Number : 244678  
Brand : Sigma-Aldrich

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Corrosive

##### GHS Classification

Skin corrosion (Category 1B)  
Serious eye damage (Category 1)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)  
H314 : Causes severe skin burns and eye damage.

Precautionary statement(s)  
P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 : Immediately call a POISON CENTER or doctor/ physician.

##### HMIS Classification

Health hazard: 3  
Flammability: 0  
Physical hazards: 0

##### NFPA Rating

Health hazard: 3  
Fire: 0  
Reactivity Hazard: 0

##### Potential Health Effects

**Inhalation** : May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous

**Skin** membranes and upper respiratory tract.  
**Eyes** May be harmful if absorbed through skin. Causes skin burns.  
**Ingestion** Causes eye burns.  
May be harmful if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula :  $\text{Cl}_4\text{Sn} \cdot 5\text{H}_2\text{O}$   
Molecular Weight : 350.60 g/mol

Component	Concentration
<b>Tetrachlorostannane pentahydrate</b>	
CAS-No.	10026-06-9
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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

#### Conditions of flammability

Not flammable or combustible.

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Tin/tin oxides

#### Further information

The product itself does not burn.

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

#### Environmental precautions

Do not let product enter drains.

#### Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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### 7. HANDLING AND STORAGE

#### Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Immersion protection

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested: Dermatril® (Aldrich Z677272, Size M)

Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 30 min

Material tested: Dermatril® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	Solid form
Colour	no data available

### Safety data

pH	no data available
Melting point/freezing point	no data available

Boiling point	no data available
Flash point	not applicable
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	no data available
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Materials to avoid

Strong acids

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Tin/tin oxides  
Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

#### Inhalation LC50

no data available

#### Dermal LD50

no data available

#### Other information on acute toxicity

LD50 Intraperitoneal - rat - 120 mg/kg

LD50 Intravenous - mouse - 32 mg/kg

### Skin corrosion/irritation

no data available

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitization

no data available

### **Germ cell mutagenicity**

Genotoxicity in vitro - Human - lymphocyte  
Sister chromatid exchange

Genotoxicity in vitro - Human - lymphocyte  
Cytogenetic analysis

### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### **Reproductive toxicity**

no data available

### **Teratogenicity**

no data available

### **Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

### **Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

### **Aspiration hazard**

no data available

### **Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin burns.
<b>Eyes</b>	Causes eye burns.

### **Signs and Symptoms of Exposure**

Inorganic tin salts are poorly absorbed into the body. When parenterally administered tin salts are highly toxic. Tin oxide inhaled as a dust or fume leads to a benign pneumoconiosis with no sign of interference with pulmonary function. Deposited dust appears nodular with the particles being mostly extracellular. No necrosis, foreign-body giant-cell reaction, or collagen formation has been seen. Tin salts that have gained access to the blood stream are highly toxic and produce neurologic damage and paralysis. With most common tin salts, the toxicity profile is complicated by hydrolysis in body fluids producing unphysiologic pH values. The reported symptoms of hyperemia, vascular changes with bleeding in the central nervous system, liver, heart, and other organs may be due to tin itself or to the unphysiological pH changes. Ingestion produces vomiting due to the gastric irritation from the activity and astringency of tin compounds. Injection of inorganic tin salts produces diarrhea, muscle paralysis, and twitching. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### **Synergistic effects**

no data available

### **Additional Information**

RTECS: XP8870000

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## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

no data available

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## 13. DISPOSAL CONSIDERATIONS

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 2440 Class: 8 Packing group: III  
Proper shipping name: Stannic chloride pentahydrate  
Marine pollutant: No  
Poison Inhalation Hazard: No

### IMDG

UN number: 2440 Class: 8 Packing group: III EMS-No: F-A, S-B  
Proper shipping name: STANNIC CHLORIDE PENTAHYDRATE  
Marine pollutant: No

### IATA

UN number: 2440 Class: 8 Packing group: III  
Proper shipping name: Stannic chloride pentahydrate

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## 15. REGULATORY INFORMATION

### OSHA Hazards

Corrosive

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

Acute Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

Tetrachlorostannane pentahydrate

CAS-No.  
10026-06-9Revision Date  
2007-03-01**New Jersey Right To Know Components**

Tetrachlorostannane pentahydrate

CAS-No.  
10026-06-9Revision Date  
2007-03-01**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION****Further information**

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