

ALFAAA14610

Tin(II) chloride dihydrate

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明:
Product Description: 氯化锡(II)二水合物, 98%
 Tin(II) chloride dihydrate

Cat No. : A14610
Synonyms Stannous chloride dihydrate
CAS No 10025-69-1
Molecular Formula Cl₂ Sn . 2 H₂ O

Supplier Avocado Research Chemicals Ltd.
 (Part of Thermo Fisher Scientific)
 Shore Road, Heysham
 Lancashire, LA3 2XY,
 United Kingdom
 Office Tel: +44 (0) 1524 850506
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 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.
Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

| Physical State | Appearance | Odor |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|
| Solid | Colorless | Odorless |
| Emergency Overview May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Harmful if inhaled. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects. Moisture sensitive. Air sensitive. | | |

Classification of the substance or mixture

| | |
|------------------------------------------------------|--------------|
| Substances/mixtures corrosive to metal | Category 1 |
| Acute Oral Toxicity | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 |
| Skin Corrosion/Irritation | Category 1 B |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Skin Sensitization | Category 1 |
| Specific target organ toxicity - (single exposure) | Category 3 |
| Specific target organ toxicity - (repeated exposure) | Category 2 |
| Chronic aquatic toxicity | Category 3 |

Label Elements

**Signal Word****Danger****Hazard Statements**

H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H335 - May cause respiratory irritation
H373 - May cause damage to organs through prolonged or repeated exposure
H412 - Harmful to aquatic life with long lasting effects
H302 + H332 - Harmful if swallowed or if inhaled

Precautionary Statements**Prevention**

P234 - Keep only in original packaging
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P273 - Avoid release to the environment

Response

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
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
P330 - Rinse mouth
P331 - Do NOT induce vomiting
P363 - Wash contaminated clothing before reuse
P390 - Absorb spillage to prevent material damage

Storage

P402 - Store in a dry place
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P406 - Store in corrosion resistant polypropylene container with a resistant liner

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards

May be corrosive to metals.

Health Hazards

Harmful if swallowed. Corrosive. Causes skin and eye burns. May cause an allergic skin reaction. Harmful if inhaled. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.

Environmental hazards

Harmful to aquatic life with long lasting effects. Will likely be mobile in the environment due to its water solubility. The product is water soluble, and may spread in water systems.

Other Hazards

Toxic to terrestrial vertebrates. This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|-----------------------------|------------|----------|
| Stannous chloride dihydrate | 10025-69-1 | >95 |

Tin(II) chloride dihydrate

| | | |
|-------------------|-----------|---|
| Stannous chloride | 7772-99-8 | - |
|-------------------|-----------|---|

SECTION 4. FIRST AID MEASURES

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Ingestion

Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects

Causes burns by all exposure routes. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

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Environmental Precautions

Should not be released into the environment. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE**Handling**

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store in metal containers. Corrosives area. Store under an inert atmosphere.

Specific Use(s)

Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control Parameters**

| Component | China | Taiwan | Thailand | Hong Kong |
|-----------------------------|-------|--------------------------|----------|-----------|
| Stannous chloride dihydrate | - | TWA: 2 mg/m ³ | | - |
| Stannous chloride | - | TWA: 2 mg/m ³ | | - |

| Component | ACGIH TLV | OSHA PEL | NIOSH | The United Kingdom | European Union |
|-----------------------------|--------------------------|------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|----------------|
| Stannous chloride dihydrate | TWA: 2 mg/m ³ | (Vacated) TWA: 2 mg/m ³ | IDLH: 100 mg/m ³ TWA: 2 mg/m ³ | STEL: 4 mg/m ³ 15 min TWA: 2 mg/m ³ 8 hr | |
| Stannous chloride | TWA: 2 mg/m ³ | (Vacated) TWA: 2 mg/m ³ | IDLH: 100 mg/m ³ TWA: 2 mg/m ³ | STEL: 4 mg/m ³ 15 min TWA: 2 mg/m ³ 8 hr | |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Exposure Controls**Engineering Measures**

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

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| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers | - | EN 374 | (minimum requirement) |
| Nitrile rubber | recommendations | | | |
| Neoprene | | | | |
| PVC | | | | |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection

Long sleeved clothing

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Particle filtering: EN149:2001

When RPE is used a face piece Fit Test should be conducted

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Colorless

Physical State

Solid

Odor

Odorless

Odor Threshold

No data available

pH

No information available

Melting Point/Range

37 - 38 °C / 98.6 - 100.4 °F

Softening Point

No data available

Boiling Point/Range

652 °C / 1205.6 °F

@ 760 mmHg

Flash Point

No information available

Method - No information available

Evaporation Rate

Not applicable

Solid

Flammability (solid,gas)

No information available

Explosion Limits

No data available

Vapor Pressure

No data available

Vapor Density

Not applicable

Solid

Specific Gravity / Density

No data available

Bulk Density

No data available

Water Solubility

1187 g/l (20°C)

Solubility in other solvents

No information available

Partition Coefficient (n-octanol/water)**Autoignition Temperature**

No data available

Decomposition Temperature

No data available

Viscosity

Not applicable

Solid

Explosive Properties

No information available

Tin(II) chloride dihydrate

Oxidizing Properties No information available

Molecular Formula Cl₂ Sn . 2 H₂ O
Molecular Weight 225.63

SECTION 10. STABILITY AND REACTIVITY

Stability Strong reducing agent. Fire and explosion risk in contact with oxidizing agents. Moisture sensitive. Air sensitive.

Hazardous Reactions None under normal processing.
Hazardous Polymerization No information available.

Conditions to Avoid Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water.

Materials to avoid Strong oxidizing agents. Peroxides. Alkali metals. .

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapors. Hydrogen chloride gas.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

(a) acute toxicity;

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------|---------------------------|-------------|----------------------------------|
| Stannous chloride | LD50 = 1910 mg/kg (Rat) | | LC50 = 2mg/l (4h) rat (OECD 436) |

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory Based on available data, the classification criteria are not met
Skin Category 1

No information available

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

| Component | Test method | Test species | Study result |
|--------------------------------------|-----------------------------------------------|-----------------------|--------------|
| Stannous chloride 7772-99-8 (-) | OECD Test Guideline 476 Gene cell mutation | in vitro Mammalian | negative |

Mutagenic effects have occurred in humans

(f) carcinogenicity; Based on available data, the classification criteria are not met

| Component | Test method | Test species / Duration | Study result |
|--------------------------------------|-------------------------|-------------------------|--------------|
| Stannous chloride 7772-99-8 (-) | OECD Test Guideline 451 | Rat mouse 2 years | negative |

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

| Component | Test method | Test species / Duration | Study result |
|-----------|-------------|-------------------------|--------------|
|-----------|-------------|-------------------------|--------------|

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| | | | |
|--------------------------------------|--------------------------------------------|----------------|---------------------------|
| Stannous chloride 7772-99-8 (-) | OECD Test Guideline similar to OECD 416 | rabbit 15 days | NOAEL = 41.5 mg/kg bw/day |
|--------------------------------------|--------------------------------------------|----------------|---------------------------|

(h) STOT-single exposure; Category 3

Results / Target organs Respiratory system

(i) STOT-repeated exposure; Category 2

Target Organs Respiratory system, Eyes, Skin, Kidney, Blood, spleen.

(j) aspiration hazard; Not applicable
Solid

Other Adverse Effects The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects The product contains following substances which are hazardous for the environment. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|-------------------|-----------------|----------------------|------------------|----------|
| Stannous chloride | | EC50 = 19.5 mg/L/48h | | |

Persistence and Degradability**Persistence**

Soluble in water, Persistence is unlikely, based on information available.

Degradability

Not relevant for inorganic substances.

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential

Bioaccumulation is unlikely

Mobility in soil

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility Highly mobile in soils

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS**Waste from Residues/Unused Products**

Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.

Other Information

Do not flush to sewer. Waste codes should be assigned by the user based on the

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application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment. Large amounts will affect pH and harm aquatic organisms.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

UN-No UN3260
Proper Shipping Name CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Technical Shipping Name Tin (II) chloride dihydrate
Hazard Class 8
Packing Group III

IMDG/IMO

UN-No UN3260
Proper Shipping Name CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Technical Shipping Name Tin (II) chloride dihydrate
Hazard Class 8
Packing Group III

IATA

UN-No UN3260
Proper Shipping Name CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Technical Shipping Name Tin (II) chloride dihydrate
Hazard Class 8
Packing Group III

Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

| Component | The Inventory of Hazardous Chemicals (2015 Edition) | List of dangerous goods GB 12268 - 2012 | TCSI | IECSC | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL |
|-----------------------------|-----------------------------------------------------|-----------------------------------------|------|-------|-----------|------|-----|-------|------|------|------|----------|
| Stannous chloride dihydrate | - | - | X | X | - | - | - | X | X | X | X | - |
| Stannous chloride | - | - | X | X | 231-868-0 | X | X | X | X | X | X | KE-33845 |

National Regulations

SECTION 16. OTHER INFORMATION

Prepared By Health, Safety and Environmental Department
Creation Date 08-Dec-2009
Revision Date 22-Apr-2024
Revision Summary New emergency telephone response service provider.

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Training Advice

Chemical incident response training.

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet