

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

Creation Date 15-Oct-2009

Revision Date 24-Jan-2024

Revision Number 3

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

1.1. Product identifier

| Product Description: | Tin(II) chloride, anhydrous |
|---------------------------|-----------------------------|
| Cat No. : | 41960 |
| Synonyms | Stannous chloride |
| CAS No | 7772-99-8 |
| EC No | 231-868-0 |
| Molecular Formula | Cl2 Sn |
| REACH registration number | - |
| | |

1.2. Relevant identified uses of the substance or mixture and uses advised against

| Recommended Use | Laboratory chemicals. |
|----------------------|--------------------------|
| Uses advised against | No Information available |

1.3. Details of the supplier of the safety data sheet

| Company | Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608 |
|---------------------------------|---|
| E-mail address | begel.sdsdesk@thermofisher.com |
| 1.4. Emergency telephone number | For information US call: 001-800-227-6701 / Europe call: +32 14 57 52 11 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 |

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Physical hazards

Substances/mixtures corrosive to metal

Category 1 (H290)

Tin(II) chloride, anhydrous

Health hazards

Acute oral toxicity Acute Inhalation Toxicity - Dusts and Mists Skin Corrosion/Irritation Serious Eye Damage/Eye Irritation Skin Sensitization Specific target organ toxicity - (single exposure) Specific target organ toxicity - (repeated exposure)

Environmental hazards

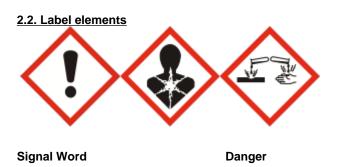
Chronic aquatic toxicity

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Category 4 (H302) Category 4 (H332) Category 1 B (H314) Category 1 (H318) Category 1 (H317) Category 3 (H335) Category 2 (H373)

Category 3 (H412)

Full text of Hazard Statements: see section 16



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

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

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

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

2.3. Other hazards

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

| Component | CAS No | EC No | Weight % | CLP Classification - According to |
|-----------|--------|-------|----------|-----------------------------------|
|-----------|--------|-------|----------|-----------------------------------|

Tin(II) chloride, anhydrous

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| | | | | GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|-------------------|-----------|-------------------|-----|---|
| Stannous chloride | 7772-99-8 | EEC No. 231-868-0 | >95 | Met. Corr. 1 (H290) Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Sens. 1 (H317) Skin Corr. 1B (H314) Eye Dam. 1 (H318) STOT SE 3 (H335) STOT RE 2 (H373) Aquatic Chronic 3 (H412) |

REACH registration number

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of 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. |
| Ingestion | Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. |
| 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. |
| 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. |
| 4.2. Most important symptoms and | effects, both acute and delayed |
| | 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 |
| 4.3. Indication of any immediate me | edical attention and special treatment needed |
| Notes to Physician | Treat symptomatically. |
| | |

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media CO₂, dry chemical, dry sand, alcohol-resistant foam.

Tin(II) chloride, anhydrous

Extinguishing media which must not be used for safety reasons No information available.

5.2. Special hazards arising from the substance or mixture

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

Hazardous Combustion Products

Hydrogen chloride gas.

5.3. Advice 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

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. 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.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe 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.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

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.

Technical Rules for Hazardous Substances (TRGS) 510 Class 8B Storage Class (LGK) (Germany)

7.3. Specific end use(s)

Use in laboratories

8.1. Control parameters

Exposure limits

List source(s): UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

| Component | The United Kingdom | European Union | Ireland |
|-------------------|----------------------------------|----------------|---------|
| Stannous chloride | STEL: 4 mg/m ³ 15 min | | |
| | TWA: 2 mg/m ³ 8 hr | | |

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

| Component | Acute effects local | Acute effects | Chronic effects local | Chronic effects |
|--|---------------------|----------------------------|-----------------------|----------------------------|
| | (Dermal) | systemic (Dermal) | (Dermal) | systemic (Dermal) |
| Stannous chloride 7772-99-8 (>95) | | DNEL = 0.69mg/kg bw/day | | DNEL = 0.34mg/kg bw/day |

| Component | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|--|-------------------------------------|-------------------------------------|------------------------------------|---------------------------------------|
| Stannous chloride 7772-99-8 (>95) | DNEL = 12.84mg/m ³ | $DNEL = 2.01 mg/m^3$ | DMEL = 12mg/m ³ | DNEL = 1mg/m ³ |

Predicted No Effect Concentration (PNEC)

See values below.

| Component | Fresh water | | Water Intermittent | Microorganisms in | , |
|-------------------|----------------|-------------|--------------------|-------------------|---|
| | | sediment | | sewage treatment | |
| Stannous chloride | PNEC = 0.8mg/L | PNEC = | PNEC = 4.24µg/L | PNEC = 1.06ng/L | |
| 7772-99-8 (>95) | | 51.37mg/kg | - | | |
| | | sediment dw | | | |

8.2. 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 equ Eye Protection | | Goggles (European standard - EN 166) | | |
|---|---|--------------------------------------|-----------------------|---|
| Hand Protection | Protectiv | e gloves | | |
| Glove material Natural rubber Nitrile rubber Neoprene PVC | Breakthrough time See manufacturers recommendations | Glove thickness - | EU standard EN 374 | Glove comments (minimum requirement) |

Skin and body protection Long sleeved clothing.

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)

Tin(II) chloride, anhydrous

Ensure gloves are suitable for the task: Chemical compatability, 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.

| 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 |
| 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

9.1. Information on basic physical and chemical properties

| Physical State | Solid | |
|---|---|---|
| Appearance Odor Odor Threshold Melting Point/Range Softening Point Boiling Point/Range Flammability (liquid) Flammability (solid,gas) Explosion Limits | White Slight No data available 246 °C / 474.8 °F No data available 652 °C / 1205.6 °F Not applicable No information available No data available | @ 760 mmHg Solid |
| Flash Point Autoignition Temperature Decomposition Temperature pH Viscosity Water Solubility Solubility in other solvents Partition Coefficient (n-octanol/wat Vapor Pressure Density / Specific Gravity | negligible 3.950 | Method - No information available 10% in water Solid |
| Bulk Density Vapor Density Particle characteristics | No data available Not applicable No data available | Solid |
| 9.2. Other information | | |
| Molecular Formula Molecular Weight Evaporation Rate | Cl2 Sn 189.6 Not applicable - Solid | |

| 10.1. Reactivity | None known, based on information available Strong reducing agent. Fire and explosion risk in contact with oxidizing agents |
|---|--|
| 10.2. Chemical stability | Hygroscopic. Air sensitive. Strong reducing agent. Fire and explosion risk in contact with oxidizing agents. |
| 10.3. Possibility of hazardous rea | actions_ |
| Hazardous Polymerization Hazardous Reactions | Hazardous polymerization does not occur. None under normal processing. |
| <u>10.4. Conditions to avoid</u> | Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water. Exposure to air. |
| 10.5. Incompatible materials | Strong oxidizing agents. Peroxides. Alkali metals Nitrates. Ethylene oxide. |
| 10.6 Hazardaus desembosition | araduata |

<u>10.6. Hazardous decomposition products</u> Hydrogen chloride gas.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

Tin(II) chloride, anhydrous

(a) acute toxicity;

OralCategory 4DermalNo data availableInhalationCategory 4

| 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 Skin No data available Category 1

May cause sensitization by skin contact

(e) germ cell mutagenicity; No data available

| Component | Test method | Test species | Study result |
|-------------------|-------------------------|--------------|--------------|
| Stannous chloride | OECD Test Guideline 476 | in vitro | negative |
| 7772-99-8 (>95) | Gene cell mutation | Mammalian | - |

(f) carcinogenicity;

No data available

| [| Component | Test method | Test species / Duration | Study result |
|---|-------------------|-------------------------|-------------------------|--------------|
| Ī | Stannous chloride | OECD Test Guideline 451 | Rat | negative |
| | 7772-99-8 (>95) | | mouse | |
| | | | 2 years | |

There are no known carcinogenic chemicals in this product

| Component Test method Test species / Duration Study result Stannous chloride OECD Test Guideline similar to OECD 416 rabbit 15 days NOREL = 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 Central Vascular System (CVS), Blood. (j) aspiration hazard; Not applicable Solid 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 pair, muscle pain or flushing. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Prosible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. 11.2. Information on other hazards Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. 12.1. Toxicity The product contains following substances which are hazardous for the environment. Contains a substance which is Harmful to aquatic organisms, may cause long-term adverse effects in the aquate environment. Component Freshwater Fish Water Flea Freshwater Algae </th <th>(g) reproductive toxicity;</th> <th>No data available</th> <th></th> <th></th> | (g) reproductive toxicity; | No data available | | |
|---|---|----------------------------------|----------------------------------|---------------------------------|
| TTT2-99-8 (>95) OECD 416 15 days 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 Central Vascular System (CVS), Blood. (j) aspiration hazard; Not applicable Solid 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 layage 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. 11.2. Information on other hazards Endocrine Disrupting Properties Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. I2.1. Toxicity The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Component Freshwater Fish Water Fiea Freshwater Algae | Component | Test method | Test species / Duration | |
| (h) STOT-single exposure; Category 3 Results / Target organs Respiratory system. (i) STOT-repeated exposure; Category 2 Target Organs Central Vascular System (CVS), Blood. (i) aspiration hazard; Not applicable Solid 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. 11.2. Information on other hazards. Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. SECTION 12: ECOLOGICAL INFORMATION 12.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. | | | | - |
| (h) STOT-single exposure; Category 3 Results / Target organs Respiratory system. (i) STOT-repeated exposure; Category 2 Target Organs Central Vascular System (CVS), Blood. (i) aspiration hazard; Not applicable Solid 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. 11.2. Information on other hazards Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. SECTION 12: ECOLOGICAL INFORMATION 12.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. | 7772-99-8 (>95) | OECD 416 | 15 days | _ |
| Results / Target organs Respiratory system. (i) STOT-repeated exposure; Category 2 Target Organs Central Vascular System (CVS), Blood. (j) aspiration hazard; Not applicable Solid 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. 11.2. Information on other hazards Endocrine Disrupting Properties Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. SECTION 12: ECOLOGICAL INFORMATION 12.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Component Freshwater Fish Water Flea Freshwater Algae | | | | mg/kg bw/day |
| Results / Target organs Respiratory system. (i) STOT-repeated exposure; Category 2 Target Organs Central Vascular System (CVS), Blood. (j) aspiration hazard; Not applicable Solid 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. 11.2. Information on other hazards Endocrine Disrupting Properties Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. SECTION 12: ECOLOGICAL INFORMATION 12.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Component Freshwater Fish Water Flea Freshwater Algae | | | | |
| (i) STOT-repeated exposure; Category 2 Target Organs Central Vascular System (CVS), Blood. (j) aspiration hazard; Not applicable Solid 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. 11.2. Information on other hazards Endocrine Disrupting Properties Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. I2.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Component Freshwater Fish Water Flea Freshwater Algae | (h) STOT-single exposure; | Category 3 | | |
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| Target Organs Central Vascular System (CVS), Blood. (i) aspiration hazard; Not applicable Solid 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. 11.2. Information on other hazards Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. SECTION 12: ECOLOGICAL INFORMATION 12.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Component Freshwater Fish Water Flea Freshwater Algae | | | | |
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| (i) aspiration hazard; Not applicable Solid 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. 11.2. Information on other hazards Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. SECTION 12: ECOLOGICAL INFORMATION 12.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Component Freshwater Fish Water Flea Freshwater Algae | | | | |
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| Solid 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. 11.2. Information on other hazards Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. Section 12: ECOLOGICAL INFORMATION 12.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Component Freshwater Fish Water Flea Freshwater Algae | | | | |
| Solid 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. 11.2. Information on other hazards Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. Section 12: ECOLOGICAL INFORMATION 12.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Component Freshwater Fish Water Flea Freshwater Algae | (i) aspiration hazard: | Not applicable | | |
| delayed 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. 11.2. Information on other hazards Endocrine Disrupting Properties Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. SECTION 12: ECOLOGICAL INFORMATION 12.1. Toxicity Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Component Freshwater Fish Water Flea Freshwater Algae | () | | | |
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| adverse effects in the aquatic environment. Component Freshwater Fish Water Flea Freshwater Algae | Ecotoxicity effects | | | |
| Component Freshwater Fish Water Flea Freshwater Algae | | | | is, may cause long-term |
| | | adverse effects in the aquatic e | environment. | |
| | | | | |
| Stannous chloride EC50 = 19.5 mg/L/48h | | Freshwater Fish | | Freshwater Algae |
| | Stannous chloride | | EC50 = 19.5 mg/L/48h | |

| <u>12.2. Persistence and degradability</u> Persistence Degradability Degradation in sewage treatment plant | Soluble in water, Persistence is unlikely, based on information available. Not relevant for inorganic substances. Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. |
|--|---|
| 12.3. Bioaccumulative potential | Bioaccumulation is unlikely |
| <u>12.4. Mobility in soil</u> | 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 |
| <u>12.5. Results of PBT and vPvB</u> assessment | In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment. |

<u>12.6. Endocrine disrupting</u> properties Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

| 12.7. Other adverse effects |
|------------------------------|
| Persistent Organic Pollutant |
| Ozone Depletion Potential |

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

| 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. |
| European Waste Catalogue (EWC) | According to the European Waste Catalog, Waste Codes are not product specific, but application specific. |
| Other Information | Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Solutions with low pH-value must be neutralized before discharge. Do not let this chemical enter the environment. Large amounts will affect pH and harm aquatic organisms. |

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

| UN3260 |
|--|
| Corrosive solid, acidic, inorganic, n.o.s. |
| Tin (II) Chloride |
| 8 |
| III |
| |

<u>ADR</u>

| <u>14.1. UN number</u> | UN3260 |
|----------------------------------|--|
| 14.2. UN proper shipping name | Corrosive solid, acidic, inorganic, n.o.s. |
| Technical Shipping Name | Tin (II) Chloride |
| 14.3. Transport hazard class(es) | 8 |
| 14.4. Packing group | III |

<u>IATA</u>

| <u>14.1. UN number</u> | UN3260 |
|----------------------------------|--|
| 14.2. UN proper shipping name | Corrosive solid, acidic, inorganic, n.o.s. |
| Technical Shipping Name | Tin (II) Chloride |
| 14.3. Transport hazard class(es) | 8 |
| 14.4. Packing group | III |
| | |
| | |

<u>14.5. Environmental hazards</u> No hazards identified

<u>14.6. Special precautions for user</u> No special precautions required.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component | CAS No | EINECS | ELINCS | NLP | IECSC | TCSI | KECL | ENCS | ISHL |
|-------------------|-----------|-----------|---------|--------------------|-------|------|----------|-------|-------|
| Stannous chloride | 7772-99-8 | 231-868-0 | - | - | Х | Х | KE-33845 | Х | Х |
| | | | | | | | | | |
| Component | CAS No | TSCA | notific | ventory ation - | DSL | NDSL | AICS | NZIoC | PICCS |
| | | | Active- | nactive | | | | | |
| Stannous chloride | 7772-99-8 | Х | ACT | IVE | Х | - | Х | Х | Х |

Legend: X - Listed '-' - Not Listed KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH

Not applicable

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | · · · · · · · · · · · · · · · · · · · | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-------------------|-----------|---|---------------------------------------|---|
| Stannous chloride | 7772-99-8 | - | - | - |

Seveso III Directive (2012/18/EC)

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report | |
|-------------------|-----------|---|--|--|
| | | Notification | Requirements | |
| Stannous chloride | 7772-99-8 | Not applicable | Not applicable | |

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification

See table for values

| Component | Germany - Water Classification (AwSV) | Germany - TA-Luft Class |
|-------------------|---------------------------------------|-------------------------|
| Stannous chloride | WGK3 | |

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H290 - May be corrosive to metals

H302 - Harmful if swallowed

H332 - Harmful if inhaled

H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

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

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemic 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

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

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

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

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

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.

| Prepared By | Health, Safety and Environmental Department |
|------------------|--|
| Creation Date | 15-Oct-2009 |
| Revision Date | 24-Jan-2024 |
| Revision Summary | New emergency telephone response service provider. |

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-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

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

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 MARPOL - International Convention for the Prevention of Pollution from Ships ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

Disclaimer

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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