**STANNOUS CHLORIDE, DIHYDRATE**

**MATERIALSAFETYDATASHEET**

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INFORMATIONFORTHEIRPARTICULARPURPOSES.

**SUBSTANCEIDENTIFICATION**

CASNUMBER:10025-69-1
**SUBSTANCE:** STANNOUS CHLORIDE, DIHYDRATE; STANNOCHLOR; TIN HYDROUS; TINDICHLORIDE, D.HYDRATE; T-142; Tn(3)TO T-163; ACC21850

**CHEMICALFAMILY:** Inorganicsalt
**MOLECULARFORMULA:** Sn-Cl2.2H2-O
**MOLECULARWEIGHT:** 225.60

**RATINGS (SCALE 0-3):**
**HEALTH:** 2
**FIRE:** 0
**REACTIVITY:** 0
**PERSISTENCE:** 3
**GS (SCALE 0-4):**

**COMPONENTS AND CONTAMINANTS**

**COMPONENT:** STANNOUS CHLORIDE, DIHYDRATE
**PERCENT:** 100
**CAS#:** 10025-69-1

**OTHER CONTAMINANTS:** NONE

TIN "ASNUDFn ORGANICTIN COMPOUNDS (ASSN):
2mg/m3 OSH AND NTP
2mg/m3 ACGIH
2mg/m3 NIOSH recommended TWA
2mg/m3 DFGR MAK 30 minute peak, average value, 4 times/shift

Measurement method: Particulate filter; acid; atomic absorption spectrometry; (NIOSH Vol. 1(3)#S183).

**PHYSICALDATA**

**DESCRIPTION:** Colorless crystals
**BOILINGPOINT:** Decomposes
**MELTINGPOINT:** 100F (38C)
**SPECIFICGRAVITY:** 2.7
**SOLUBILITY IN WATER:** Decomposes
**SOLVENTSOLUBILITY:** Alcohol, ether, acetone, acetic acid, sodium hydroxide

**FIRE AND EXPLOSIONDATA**

**FIRE AND EXPLOSION HAZARD:** Negligible fire hazard when exposed to heat or flames.

**FIREFIGHTINGMEDIA:**
Dry chemical, carbon dioxide, waterspray or regular foam (1993 Emergency Response Guidebook, RSPAP 5800.6).
For larger fires, use water spray, fog (1993 Emergency Response Guidebook, RSPAP 5800.6, Guide Page 31)

Use agents suitable for type of surrounding fire. Avoid breathing hazardous vapors, keep upwind.

**TRANSPORTATIONDATA**

**US DEPARTMENT OF TRANSPORTATION SHIPPIING NAME-ID NUMBER, 49CFR172.101:** Other regulated substances, solid, n.o.s. (stannous chloride, dihydrate)- NA3077

**US DEPARTMENT OF TRANSPORTATION HAZARDCLASS OR DIVISION, 49CFR172.101:** 9-Miscellaneous hazardous material

**US DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49CFR172.101:** PG II

**US DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49CFR172.101 AND SUBPARTE:** Class 9

**US DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS:**

**US DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS, 49CFR172.101:**

- PASSENGERAIRCRAFT OR RAILCAR: No limit
- CARGOAIRCRAFT ONLY: No limit

**TOXICITY**

STANNOUS CHLORIDE:
**LD50:** 700mg/kgoral-rat
**LD50:** 250mg/kgoral-mouse
**LD50:** 60mg/kgoral-rabbit
**LD50:** 500mg/kgoral-guineapig
**LD50:** 400mg/kg subcutaneous-guineapig
**LD50:** 20mg/kg intravenous-rat
**LD50:** 20mg/kg intravenous-dog

**CARCINOGEN STATUS:** None. Stannous chloride was judged not to be carcinogenic to mice and rats, although C-cell tumors of the thyroid gland in male rats may have been associated with the administration of the chemical (NTP-tr231).

**LOCAL EFFECTS:** Irritant - Inhalation, skin, eye.

**ACUTE TOXICITY LEVEL:** Moderately toxic by ingestion (anhydrous).

**PERSONS WITH A HISTORY OF SKIN OR RESPIRATORY DISEASE:**

**HEALTH EFFECTS AND FIRST AID**

**INHALATION:** STANNOUS CHLORIDE:
**IRRITANT**: 400mg (Sn)/m3 Immediately Dangerous to Life or Health

**ACUTE EXPOSURE:** Sore throat, coughing, and shortness of breath may occur.

**CHRONIC EXPOSURE:** No data available.

**FIRST AID:** Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.

**SKIN CONTACT:** STANNOUS CHLORIDE:
**IRRITANT**: Direct contact may cause redness, pain, and irritation.

**ACUTE EXPOSURE:** Direct contact may cause redness, pain, and irritation.

**STANNOUS CHLORIDE on skin scratches of rabbits produced a destructive reaction within intraepidermal pustules. Stannous chloride patches on normal skin produced no clinical or histologic changes.

**CHRONIC EXPOSURE:** Repeated or prolonged exposure may cause dermatitis. Solutionsof somemetalsaltscause erythematous, papular, and granulomatous reactions.

**FIRST AID:** Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.

**EYE CONTACT:** STANNOUS CHLORIDE:
**IRRITANT**: Direct contact may cause redness, pain, and irritation.

**ACUTE EXPOSURE:** Direct contact may cause redness, pain, and irritation.

**STANNOUS CHLORIDE on eye scratches of rabbits produced a destructive reaction within intraepidermal pustules. Stannous chloride patches on normal skin produced no clinical or histologic changes.

**CHRONIC EXPOSURE:** Repeated or prolonged exposure may cause conjunctivitis.

**FIRST AID:** Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.
The specific respirator selected must be based on contamination levels found in the workplace, must not exceed the working limits of the respirator and the respirator is selected according to the employer’s needs. The employer must also ensure that the respirator is properly maintained and that it is used in the correct manner.

The following respirators and maximum use concentrations are recommendations:

**RESPIRATOR:**

- Provided with an exhaust ventilation system to meet published exposure limits.

**VENTILATION:**

- Protect the area from spills. Keep the area clean and free of other substances.
- For larger spills, dike the area to prevent the spill from spreading.
- Keep the area clean and free of other substances.

In case of spills, use absorbent material to dispose of the spill.

**EYE PROTECTION:**

- Employers must wear protective goggles to prevent eye contact with this substance.

**FACE PROTECTION:**

- Employers must wear splash-proof or dust-resistant safety equipment to prevent repeated or prolonged skin contact with this substance.

**INCOMPATIBILITIES:**

- TNT, NITROUS OXIDE: Violent, exothermic polymerization.
- CALCIUM ACETYLIDE: Burn with incandescence after ignition.
- CHLORINE: Incompatible.
- SODIUM: Explosion on impact.
- KNO3: Violent reaction.
- HALITRATES: Possible explosive reaction.
- PEROXIDE: Violent, exothermic reaction.
- TURPENTINE: Incompatible.

**FIRST AID:**

- If there is any possibility that an employee’s eyes may come into contact with this substance, the employer should provide an emergency eye wash station.
- Emergency eye wash: Wherever there is any possibility that an employee’s eyes may come into contact with this substance.

**INDUSTRIAL SPILL:**

- Spill and leak procedures:
  - Avoid unnecessary contact with the spill.
  - Remove affected person from the immediate work area.
  - Use adequate personal protective equipment.
  - Keep affected person warm and at rest.
  - Maintain spontaneous breathing.
  - Monitor vital signs and maintain airway.
  - Do not attempt resuscitation.

**ANTIDOTE:**

- For fire-fighting and other immediately dangerous to life or health conditions:
  - Any self-contained breathing apparatus.
  - Any appropriate escape-type self-contained breathing apparatus.
  - An air-purifying full-face piece respirator with a high-efficiency particulate filter.

**DECOMPOSITION:**

- Thermal decomposition emits corrosive fumes of chlorine.

**POLYMERIZATION:**

- Hazardous polymerization has not been reported to occur under normal conditions.

**CONDITIONS TO AVOID:**

- Excessive exposure to high temperatures and pressures.

**EXPOSURE LIMITS:**

- Threshold limit value: 20 mg/m³ — Any supplied-air respirator operated in a continuous-flow mode.
- Permissible exposure limit: 100 mg/m³ — Any self-contained breathing apparatus.
- Permissible exposure limit: 50 mg/m³ — Any powered air-purifying respirator with a dust and mist filter.

**LABELING:**

- The hazard warning symbols are: Explosive, Corrosive, Poison, Toxic, Irritant.

**REACTIVITY:**

- An any air-purifying full-face piece respirator with a high-efficiency particulate filter.
- An any supplied-air respirator with a full-face piece operated in a pressure-demand mode.
- Any self-contained breathing apparatus.
- An any supplied-air respirator with a full-face piece operated in a pressure-demand mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand mode.
- Any supplied-air respirator that has a full face piece and is operated in a pressure-demand or other positive-pressure mode.
- Any air-purifying full-face piece respirator with a high-efficiency particulate filter.
- Any self-contained breathing apparatus.

**STORAGE:**

- Store in a cool, dry, well-ventilated area.
- Store in a manner that prevents contamination with other substances.

**DISPOSAL:**

- Disposal should be in accordance with local regulations.

**ACKNOWLEDGEMENTS:**

- This information is believed to be accurate and represents the best information currently available.

**CREATION DATE:**

- 12/11/84

**REVISION DATE:**

- 05/17/94