

MATERIAL SAFETY DATA SHEET
(For Use With Retrotec's Air Current Tester and Air Current Tester Refills)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: Aldrich Chemical Co., Inc.
P.O. Box 355, Milwaukee, Wisconsin 53201

Catalog Number: 20856-6
Chemical Name: Titanium(IV) Chloride, 99.9%

Preparation Date: 01/11/96
Information Phone Number: (414) 273-3850 (414) 273-4979
Emergency Phone: (414) 273-3850
Customer No. 101281

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component: Titanium Tetrachloride CAS#: 7550-45-0 MF: CL4TI EC NO: 231-441-9

3. HAZARDS IDENTIFICATION

Label Precautionary Statements: Highly Toxic (USA Definition) Very Toxic (European Definition)
Very toxic by inhalation. Causes Burns Harmful if swallowed
Reacts violently with water. Lachrymator.
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing, gloves and eye/face protection.
Do not breath dust. Air sensitive - keep tightly closed. Handle and store under Nitrogen.
Overpacked Container should be opened only by a technically qualified individual who has read and understood the accompanying handling instructions.

4. FIRST AID MEASURES

In case of exposure, obtain medical attention immediately. This product rapidly hydrolyses to form Hydrochloric Acid.
In case of contact with skin, wipe off excess material with a dry cloth. Call a physician
Wash remaining material off with copious amounts of water for at least 15 minutes
Remove clothing and shoes prior to showering.
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes.
Assure adequate flushing by separating the eyelid with fingers. Call a physician.
Apply cool packs on eyes while transporting patient to a medical facility.
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
If swallowed, wash out mouth with water provided person is conscious.
Call a physician, do not induce vomiting.
Wash contaminated clothing, discard shoes.

5. FIRE FIGHTING MEASURES

Extinguishing media: carbon dioxide, dry chemical powder or appropriate foam. Do not use water.
Special firefighting procedures: wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Unusual fire an explosions hazards: emits toxic fumes under fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Evacuate area. Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.
Absorb on sand or vermiculite and place in close containers for disposal.
Ventilate area and wash spill site after material pickup is complete.
A mixture of baking soda and water can be used to neutralize this mixture.

7. HANDLING AND STORAGE, refer to section 8.

Additional information: titanium tetrachloride (NEAT) reacts with tetrahydrofuran causing a violent exothermic reaction and forms a complex with urea that decomposes violently at above 90 C. It forms complexes with disulfur dinitride and tetrasulfur tetranitride that may explode violently.
Incompatible with hydrogen fluoride and potassium.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Wear appropriate niosh/msha - approved respirator, chemical-resistant glove, safety goggles, other protective clothing.
Safety shower and eye bath - use only in a chemical fume hood.
Faceshield (8 inch minimum)
Do not breath in vapor Do not get in eyes, on skin, on clothing. Corrosive
Avoid prolonged or repeated exposure. Wash thoroughly after handling Lachrymator
Harmful vapor. Highly toxic. Keep tightly closed.
Do not allow contact with water. Air sensitive Store in a cool dry place.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor - colorless to pale yellow liquid
Physical properties - Boiling point: 136.4 C Melting Point: -25 C Flashpoint: None Vapor pressure: 9.6mm 20 C 50mm 55 C Specific Gravity: 1.726

10. STABILITY AND REACTIVITY

Incompatibilities: Sensitive to Air, Strong oxidizing agents, reacts violently with water.
Hazardous combustion or decomposition products: Toxic fumes of Hydrogen Chloride gas and Titanium/Titanium Oxides

11. TOXICOLOGICAL INFORMATION

Acute Effects: may be fatal if inhaled. Harmful if swallowed. May be harmful if absorbed through the skin.
Material is extremely destructive to tissue of the mucous membranes and upper respiratory track, eyes and skin.
Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. To the best of our knowledge, the chemical physical, and toxicological properties have not been thoroughly investigated.
RTECS #: XR1925000 Titanium Chloride (TiCl4)
Toxicity Data: IHL - RAT LC50:400 MG/M3 85GMAT - ,111,82
IHL - MUS LC50:100 MG/M3/2H 85GMAT - ,111,82
Additional information: ORL-RAT LD100:464MG/KG. SKN-RBT LD50: 3160MG/KG. Only Restricted registry of toxic effects of chemical substances (RTECS) data is presented here. See actual entry in RTECS for complete information

12. ECOLOGICAL INFORMATION - Data not yet available

13. DISPOSAL CONSIDERATIONS

For small quantities: Cautiously add to a large stirred excess of water. Adjust the pH to neutral, separate any insoluble solids or liquids and package them for hazardous-waste disposal. Flush the aqueous solution down the drain with plenty of water. The hydrolysis and neutralization reactions may generate heat and fumes which can be controlled by the rate of addition. Observe all federal, state and local environmental regulations.

14. TRANSPORT INFORMATION - Contact Aldrich chemical company for transportation information.

15. REGULATORY INFORMATION - U.S. information

This product is subject to SARA section 313 reporting requirements.

16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Aldrich shall not be held liable for any damage resulting from handling or from contact with the above product. See Reverse side of invoice or packing slip for additional terms and conditions of sale.
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