1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT CODE: T2490
PRODUCT FORMULATION NAME: (Tridecafluoro-1,1,2,2-tetrahydrooctyl) -1-dimethylchlorosilane
MOLECULAR FORMULA: C10H10ClF13Si

MANUFACTURER
UCT Specialties, Inc.
2731 Bartram Road
Bristol, PA 19007
Emergency Contact: Jon Telepchak
E-Mail: jtelepchak@unitedchem.com
Product Stewardship: 215-781-9255 ex141
Service Number: 717-247-0896

24 HR. EMERGENCY TELEPHONE NUMBERS
CHEMTREC (US Transportation): 1-800-424-9300 or 1-703-527-3887

COMMENTS: For Research and Development Use Only

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
PHYSICAL APPEARANCE: Clear liquid

POTENTIAL HEALTH EFFECTS
EYES: * Causes severe chemical burns. Conjunctivitis, corneal damage
SKIN: * Causes severe chemical burns. Corrosive- causes tissue destruction
INGESTION: * May cause sever chemical burns, may be harmful. Avoid contact
INHALATION: *Cause irritation or damage to lung. Harmful. Avoid contact

SIGNS AND SYMPTOMS OF OVEREXPOSURE
ACUTE TOXICITY: Liquid and vapors react with moisture on the skin, eyes and mucous membranes to release hydrogen chloride (corrosive)

Prolonged or repeated exposure and/or high concentrations of vapors will produce chemical burns and destruction of affected tissues. Respirable vapors or mist are irritating to the upper respiratory tract and bronchi. Inhalation may be fatal as a result of spasm, inflammation and edema of the lungs or larynx. Prolonged or widespread contact may result in the absorption of potentially harmful amount of material. If ingested, this material may cause severe burns of the mouth, pharynx, esophagus and stomach

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
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<tr>
<th>Chemical Name</th>
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<td>(Tridecafluoro-1,1,2,2-tetrahydrooctyl) -1-dimethylchlorosilane</td>
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4. FIRST AID MEASURES
EYES: Flush with clean water for at least 15 minutes and consult physician

Get Medical Attention Immediately!!!!!!

SKIN: Scrub with soap and water. Remove contaminated clothing and shoes

INGESTION: Get medical attention

INHALATION: Remove victim to fresh air, give CPR or oxygen if necessary

COMMENTS: If symptoms persist, get medical attention

Never give anything by mouth to an unconscious person

5. FIRE FIGHTING MEASURES

FLASH POINT AND METHOD: 52°C (126°F) (Closed cup)

EXTINGUISHING MEDIA: Alcohol Foam, dry chemical, CO2.

FIRE FIGHTING EQUIPMENT: Fire Fighters must wear positive- pressured, self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

GENERAL PROCEDURES: Absorb spilled material with suitable chemical binder. Shovel absorbent into suitable waste container. Do not contaminate soil, groundwater, or surface water.

SPECIAL PROTECTIVE EQUIPMENT: Wear appropriate personal protective equipment as specified in section 8.

7. HANDLING AND STORAGE

HANDLING: Container requires grounding during use.

STORAGE: Store in a cool and dry place. Protect from moisture. Protect from heat, direct sunlight and sources of ignition. Store away from acidic, alkaline and oxidizing materials. Maintain tightly closed container. Provide adequate ventilation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Local exhaust ventilation may be necessary to control any fume levels during the use of this product.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Use chemical goggles and face shield.

SKIN: Use impervious gloves. Use impervious clothing as necessary to protect against skin contact.

RESPIRATORY: Local exhaust required, Mechanical ventilation required

In case of exposure, use appropriate NOISH approved respiratory protection

WORK HYGIENIC PRACTICES: General industrial hygiene practice.

COMMENTS: To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment is accordance with the OSHA PPE Standard (29 CFR 1910.132) be conducted before using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

COLOR: Clear

VAPOR DENSITY: > 1

BOILING POINT: 189°C to 191°C /760mm

FLASH POINT AND METHOD: 52°C (126°F) (Closed cup)
10. STABILITY AND REACTIVITY

STABILITY: (UNDER NORMAL CONDITIONS): Stable under ordinary conditions of use and storage.
POLYMERIZATION: Hazardous polymerization will not occur
CONDITIONS TO AVOID: Contact with water and alcohols; Generates Hydrogen Chloride; TVL=C5ppm;
Contact with heat, sparks or other sources of ignition,
INCOMPATIBLE MATERIALS: oxidizing agents, alkali and acid

11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY
IARC: No
NTP: No
OSHA: No
COMMENTS: Material generates Hydrogen Chloride on contact with water and alcohol.

Hydrochloric Acid (aqueous): Toxicity Data: ihl-hmn LCLo: 1300ppm/ 30 minutes; unk-man LDLo: 81
mg/kg; ihl-rat LC50: 3124ppm / 1 hour; ihl-mus LC50: 1180ppm/ 1 hour; ihl-man LCLo: 1000 mg/m3/
2 hour; orl -rbt LD50: 900 mg/kg.

Hydrogen Chloride (gas): Toxicity Data: ihl-rat LC50: 5660ppm / 30 minutes; ihl- mus LC50: 2142ppm/
30 minutes

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No information available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Follow all federal, state and local regulations.
EMPTY CONTAINER: Containers of this material may be hazardous when empty since they retain
product residues(liquid); observe all warnings and precautions listed for this product.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)
PROPER SHIPPING NAME: Chlorosilanes, flammable, corrosive, n.o.s.
TECHNICAL NAME: ((Tridecafluoro-tetrahydrooctyl) dimethylchlorosilane)
PRIMARY HAZARD CLASS/DIVISION: 8
UN/NA NUMBER: UN2986
PACKING GROUP: II
NAERG: 29
LABEL: Corrosive, flammable liquid

15. REGULATORY INFORMATION

UNITED STATES
DOT LABEL SYMBOL AND HAZARD CLASSIFICATION

- Flammable Liquid
- Corrosive

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: This product is not listed on the TSCA Inventory.

16. OTHER INFORMATION

APPROVED BY: Office of Env. Health Safety & Security
PREPARED BY: jnm
INFORMATION CONTACT: jtelepchak@unitedchem.com
REVISION SUMMARY: New MSDS

HMIS RATING

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<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
<th>PERSONAL PROTECTION</th>
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NFPA CODES

- 2
- 3
- 1

MANUFACTURER SUPPLEMENTAL NOTES: All technical data is believed to be correct but does not purport to be all inclusive and shall be used only as a guide.

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