

## Ethylene-d<sub>4</sub> Thiourea

### Section 1. Chemical product and company identifications

**Product code:** D-5348

**Chemical formula:** C<sub>3</sub>H<sub>2</sub>D<sub>4</sub>N<sub>2</sub>S

**CAS:** 352431-28-8

**CAS (unlabelled):** 96-45-7

**Synonyms:** 2-Imidazolidinethione, 2-Mercaptoimidazoline

**Supplier / Manufacturer:**

**C/D/N Isotopes Inc.**

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Pointe-Claire (Québec) H9R 1H1

Phone: 514-697-6254

Toll-Free (Canada & USA): 1-800-565-4696

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Website: www.cdnisotopes.com

**In case of emergency:**

**TOXYSKAN HOTLINE: 1-855-780-0599**


### Section 2. Hazards identifications

**GHS (Globally Harmonized System of Classification and Labelling of Chemicals):**

**GHS Classification:**

- Acute toxicity, Oral (Category 4)
- Carcinogenicity (Category 2)
- Reproductive toxicity (Category 1B)
- Specific target organ toxicity - repeated exposure (Category 1)

**GHS Label elements:**

- Pictograms: 
- Signal word: Danger

**Hazards statement:**

- H302 Harmful if swallowed.
- H351 Suspected of causing cancer.
- H360 May damage fertility or the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure.

**Precautionary statement:**

- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P405 Store locked up.
- P501 Dispose of contents/ container to an approved waste disposal plant.

### Section 3. Composition and information on ingredients

<u>Name</u>	<u>CAS</u>	<u>Concentration %</u>
Ethylene-d <sub>4</sub> Thiourea	352431-28-8	> 98

## **Section 4. First aid measures**

**Eye contact:** Flush eyes with water as a precaution.

**Skin contact:** Wash off with soap and plenty of water. Consult a physician.

**Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**Indication of immediate medical attention and special treatment needed, if necessary:** No data available

**Most important symptoms and effects, both acute and delayed:** No data available

## **Section 5. Firefighting measures**

**Flammability of the product:** Combustible at high temperature.

**Products of combustion:** Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides, sulphur oxides.

**Firefighting media and instructions:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

## **Section 6. Accidental release measures**

**Personal precautions:** Use personal protective equipment. Avoid dust formation. Ensure adequate ventilation. Avoid breathing dust.

**Environmental precautions:** Do not let product enter drains.

**Methods for cleaning up:** Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

## **Section 7. Handling and storage**

**Handling:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation.

**Storage:** Store at room temperature. Adequate ventilation.

## **Section 8. Exposure Controls, Personal Protections**

**Engineering controls:** Use mechanical exhaust or laboratory fumehood to avoid exposure.

**Eyes:** Safety glasses with side-shields conforming to NIOSH (US) or EN 166 (EU).

**Respiratory:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US).

**Hands:** Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Skin/body:** Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## **Section 9. Physical and chemical properties (unlabelled)**

**Molecular weight:** 102.16 g/mol

**Physical status:** Solid

**Color:** White to off-white

**Odour:** Rotten-egg like

**Density:** No data available

**Melting point:** 197 - 201 °C (387 - 394 °F)

**Boiling point:** No data available

**Vapour pressure:** No data available

**Vapour density:** No data available

**Partition coefficient (octanol/water):** log Pow: -0.66

**Water solubility:** 20 g/L

**Lower explosion limit:** No data available.

**Upper explosion limit:** No data available.

**Auto-ignition temperature:** No data available.

**Flash point:** 252 °C (486 °F)

## **Section 10. Stability and reactivity**

**Stability and reactivity:** Stable under recommended storage conditions.

**Incompatibility:** Strong oxidizing agents.

**Products of combustion:** Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides, sulphur oxides.

**Reactivity conditions:** No data available.

## **Section 11. Toxicological information (unlabelled)**

**Toxicological data:** Ethylene Thiourea

**Information on ingredients:**

<u>Name</u>	<u>CAS</u>	<u>LD<sub>50</sub></u>	<u>LC<sub>50</sub></u>
Ethylene Thiourea	96-45-7	Oral - rat - 1,832 mg/kg	No data available

### **Potential acute effects**

- **Eyes:** No data available.
- **Skin:** No data available.
- **Inhalation:** No data available.
- **Ingestion:** Toxic if swallowed.

### **Potential chronic effects**

- **Carcinogenic effects:** IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (2-Imidazolidinethione). ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- **Mutagenic effects:** Genotoxicity in vitro - in vitro assay - S. typhimurium - with and without metabolic activation - negative. Genotoxicity in vivo - mouse - male - Intraperitoneal - negative.
- **Teratogenic effects:** May damage the unborn child. Presumed human reproductive toxicant.
- **Medical conditions aggravated by overexposure:** Causes damage to organs through prolonged or repeated exposure.

## **Section 12. Ecological information**

**Ecological data:**

<u>Name</u>	<u>Results</u>	<u>Species</u>	<u>Period</u>
Ethylene Thiourea	7,500 mg/l LC50	Poecilia reticulata	96 h
	13.3 mg/l EC50	Daphnia magna	48 h
	6,600 mg/l EC50	Chlorella pyrenoidosa	96 h

**Effects on environment:** No data available.

**Mobility:** No data available.

**Environmental precautions:** No data available.

**Persistence and degradability:** Aerobic. Result: 0 % - Not readily biodegradable. Method: OECD Test Guideline 301F.

**Bioaccumulative potential:** No data available.

## **Section 13. Disposal considerations**

**Waste disposal:** Contact a licensed professional waste disposal service to dispose of this material.

## **Section 14. Transportation information**

**Classification DOT/IMDG/IATA label:**

**Shipping name:** Not dangerous goods

**UN number:** None

**Class:** None

**Packaging group:** None

**Additional information:** None

## **Section 15. Regulatory information**

### **UNITED STATES: NFPA classification**



Health: 2  
Flammable: 1  
Reactivity: 0  
Special conditions: None

**Legend: 4: Severe, 3: High, 2: Moderate, 1: Slightly, 0: Not hazardous**

### **U.S. Federal regulations:**

**California proposition 65 requirements** : Not Listed  
**SARA section 313 (specific toxic chemical listings)** : Listed  
**CERCLA reportable quantity** : Listed  
**Sections 302-304 reportable quantity** : Not listed  
**Community Right-to-Know (Sections 311 and 312)** : Not Listed

## **Section 16. Additional information**

**Date of issue:** October 19th, 2023

**Version:** 4

**Elaborated by:** Toxyscan Inc., 1-866-780-0599

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*This safety data sheet has been prepared in accordance with the OSHA (USA), WHMIS (Canada) / GHS classification rules in effect at the time of writing.*