



TCI (Shanghai) DEVELOPMENT CO., LTD.

Revision number: 1

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SAFETY DATA SHEET

1. IDENTIFICATION

Product name: Ethylenethiourea
Product code: I0004
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Revision number: 1

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

PHYSICAL HAZARDS

Not classified

HEALTH HAZARDS

Acute toxicity (Oral)

Category 4

Serious eye damage/eye irritation

Category 2B

Skin sensitization

Category 1

Reproductive toxicity

Category 1B

Specific target organ toxicity

Pituitary gland Thyroid gland

- Repeated exposure [Category 1]

ENVIRONMENTAL HAZARDS

Acute aquatic hazard

Category 3

Label elements

Pictograms or hazard symbols



Signal word

Danger

Hazard statements

Harmful if swallowed

Causes eye irritation

May cause an allergic skin reaction

May damage fertility or the unborn child

Causes damage to organs through prolonged or repeated

exposure : Pituitary gland Thyroid gland

Harmful to aquatic life

Precautionary statements

[Prevention]

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust, fume, mist, vapors or spray.

Avoid release to the environment.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Wash hands and face thoroughly after handling.

Wear protective gloves, protective clothing, face protection.

[Response]

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs:

Take off contaminated clothing. And wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

IF exposed or concerned: Get medical advice or attention.

Store locked up.

Dispose of contents and container in accordance with local, regional, national regulations.

[Storage]
[Disposal]

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Substance
Components: Ethylenethiourea
Percent: >98.0%(T)
CAS RN: 96-45-7
Synonyms: 2-Imidazolidinethione , 2-Mercaptoimidazoline
Chemical Formula: C₃H₆N₂S

4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
Skin contact: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Get medical advice/attention.
Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Get medical advice/attention.
Ingestion: Get medical advice/attention. Rinse mouth.
Protection of first-aiders: A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, foam, water spray, carbon dioxide.
Specific hazards arising from the chemical: Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.
Precautions for firefighters: Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.
Special protective equipment for firefighters: When extinguishing fire, be sure to wear personal protective equipment

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
Environmental precautions: Prevent product from entering drains.
Methods and materials for containment and cleaning up: Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures: Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling.
Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated.

Advice on safe handling: Avoid all contact!

Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store in a cool and dark place.
Store locked up.
Store away from incompatible materials such as oxidizing agents.

Packaging material: Comply with laws.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection: Dust respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.

Hand protection: Impervious gloves.

Eye protection: Safety goggles. A face-shield, if the situation requires.

Skin and body protection: Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Solid
Form: Crystal - Powder
Colour: White - Almost white
Odour: Amine-like
pH: No data available
Melting point/freezing point: 198°C
Boiling point/range: No data available
Flash point: No data available
Flammability or explosive limits:
Lower: No data available
Upper: No data available
Relative density: No data available
Solubility(ies):
[Water] Slightly soluble (2g/100mL, 30°C)
[Other solvents]
Soluble: Methanol, Ethanol, Pyridine, Ethyleneglycol
Insoluble: Ether, Benzene, Acetone, Chloroform, Ligroin
Log Pow: -0.66

10. STABILITY AND REACTIVITY

Chemical stability: Stable under proper conditions.

Possibility of hazardous reactions: No special reactivity has been reported.

Incompatible materials: Oxidizing agents

Hazardous decomposition products: Carbon dioxide, Carbon monoxide, Nitrogen oxides (NOx), Sulfur oxides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	orl-rat LD50:1832 mg/kg ipr-mus LD50:200 mg/kg
Skin corrosion/irritation:	No data available
Serious eye damage/irritation:	eye-rbt 500 mg/24H MLD
Germ cell mutagenicity:	mno-esc 200 mg/L (+S9) mno-sat 20 ug/plate (-S9)
Carcinogenicity:	orl-mus TDLo:77 g/kg/82W-C orl-rat TDLo:10290 mg/kg/2Y-C
IARC =	Group 3 (Not classifiable as carcinogenic to humans)
NTP =	b (Reasonably anticipated to be carcinogens)
Reproductive toxicity:	ihl-rat TCLo:120 mg/m ³ /3H (7-14D preg) ipr-rat TDLo:30 mg/kg (13D preg) orl-rat TDLo:60 mg/kg (13D preg) orl-rat TDLo:10 mg/kg (17D preg)
RTECS Number:	NI9625000

12. ECOLOGICAL INFORMATION

Ecotoxicity:	
Fish:	48h LC50:>1000 ppm (Oryzias latipes)
Crustacea:	48h EC50:13.3 mg/L (Daphnia magna) 21d NOEC:2.50 mg/L (Daphnia magna)
Algae:	72h EC50:>1000 mg/L (Selenastrum capricornutum)
Persistence / degradability:	0 % (by BOD) , 1.2 % (by HPLC) , 0 % (by TOC)
Bioaccumulative potential(BCF):	0.2 - 0.3 (conc. 1.0 ppm) , <1.8 (conc. 0.1 ppm)
Mobility in soil	
Log Pow:	-0.66
Soil adsorption (Koc):	13
Henry's Law (PaM³/mol):	1.38 x 10 ⁻⁶

13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

Hazards Class:	Does not correspond to the classification standard of the United Nations
UN-No:	Not listed

15. REGULATORY INFORMATION

Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16,2011): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

16. OTHER INFORMATION

The reference company name of written contents

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This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.