



## DALIAN RICHON CHEM CO., LTD.

Tel : +86-411-82507336 82507337 82507338 Fax : +86-411-82507318  
Address: I/10F Chinabank Plaza, 15 Renmin Road, Dalian, 116001 China  
Web site: www.richon-chem.com E-mail: info@richon-chem.com

# Material Safety Data Sheets

## 1. IDENTIFICATION OF THE SUBSTANCE OR PREPARATION AND THE COMPANY /UNDERTAKING

**Product name:** ACCELERATOR ETU(NA-22)

**Chemical name** Ethylene thiourea

**Supplier** DALIAN RICHON CHEM CO., LTD.

I/10F, CHINABANK PLAZA, 15 RENMIN ROAD, DALIAN, CHINA.

**Emergency telephone** +86 411 82507336/7/8

**Intended use** Vulcanisation accelerator

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a substance in conformance to EC directives.

Information on hazardous ingredients

**Chemical description** Ethylene thiourea

**Composition / information on ingredients**

Number	% w/w	CAS-number	Chemical name
1	> 95	96-45-7	Ethylene thiourea

Number	EC-number	Annex-1 number	Symbol(s)	Risk-phrase(s)
1				R43 R50/53

**Other information** Formula: C<sub>3</sub>H<sub>6</sub>N<sub>2</sub>S

## 3. HAZARDS IDENTIFICATION

**WARNING:** Listed as a carcinogen (NTP, IARC, OSHA)

Combustible dust

**Eye irritant-**Avoid eye contact. Eye contact with dust can cause irritation to eyes such as itching, reddening, tearing and burning. Eye contact with vapors from this material can cause severe eye irritation.

**Skin contact-** Avoid skin contact. Repeated or prolonged skin contact may cause skin irritation or skin sensitization effect in susceptible individuals.

**Inhalation-** Inhalation of dust must be avoided. ETU may have effects on the thyroid and liver. Animal tests show that this substance could possibly cause malformations in human babies. Ingestion- Avoid ingestion. This material is considered moderately toxic by ingestion.

## 4. FIRST AID MEASURES

**Symptoms and effects** Dust may be irritating to the respiratory tract and cause symptoms of bronchitis.

Repeated contact may cause skin sensitization.

### First aid

**General** In all cases of doubt, or when symptoms persist, seek medical attention.

**Inhalation** Move to fresh air. If symptoms persist, seek medical advice.

**Skin** Remove all contaminated clothing immediately. Wash off with plenty of soap and water. Seek medical advice if irritation develops. Launder clothes before reuse.

**Eye** Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops.

**Ingestion** Rinse mouth, give water to drink.



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**Advice to physician** No specific recommendations.

### **5. FIRE-FIGHTING MEASURES**

**Extinguishing media** waterspray, water mist, foam, dry chemical powder, CO2

**Unsuitable extinguishing media** waterjet.

**Special exposure hazards** Emits toxic fumes under fire conditions.

**Hazardous decomposition/**

**combustion products**

carbon monoxide (CO), Sulfur oxides (SOx), nitrous gases (NOx).

**Protective equipment** Wear self contained breathing apparatus.

**Other information** Do not allow run-off from fire fighting to enter drains or water courses.

### **6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions** For personal protection see Section 8. Avoid dust generation.

**Environmental precautions** Avoid discharge into the environment.

**Methods for cleaning up** Collect as much as possible in a clean container for (preferable) reuse or disposal.

### **7. HANDLING AND STORAGE**

**Handling** Avoid contact with skin. Avoid dust generation.

Take precautionary measures against static discharges.

**Fire and explosion prevention** Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition.

Dust explosion class (VDI 2263): St 2.

Kst: 169 - 237 bar.m/s.

Maximum corrected explosion pressure: 7,3 - 8.2 bar.

**Storage requirements** Store in a dry and cool place.

### **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Engineering controls** Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.

**Exposure limits**

**Name**

**Ethylene thiourea** OES-TWA 5.0 mg/m<sup>3</sup> ()

**Personal protection**

**Respiratory** Avoid breathing dust. In case of insufficient ventilation, wear suitable respiratory equipment.

**Hand** Wear suitable gloves.

**Eye** Wear safety goggles.

**Skin and body** Wear suitable protective clothing.

### **9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance** powder; granules

**Colour** White

**Odour** faint

**Boiling point/range** not relevant

**Melting point/range** 192 °C

**Flash point** 250 °C

**Flammability** not determined



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**Autoignition temperature** 400 °C

**Explosive properties** dust explosion hazard

**Explosion limits** Lower Explosion Limit (LEL): 10 - 20 g/m<sup>3</sup>.

Minimum ignition energy (MIE): =< 3 mJ.

Limiting oxygen concentration (LOC): 9.0 V% O<sub>2</sub>.

**Oxidizing properties** not applicable

**Vapour pressure** negligible (20 °C)

**Density** 1220 kg/m<sup>3</sup> (20 °C)

**Bulk density** not determined

**Solubility in water** Very soluble in hot water; slightly soluble in cold water

**Solubility in other solvents** slightly soluble in methanol, ethanol, ethylene glycol, pyridine, acetic acid, naphthalene; insoluble in acetone, ether, chloroform, benzene.

**pH value** not determined

**Partition coefficient n-octanol/water** not determined

**Relative vapour density (air=1)** not applicable

**Viscosity** not applicable

### **10. STABILITY AND REACTIVITY**

**Stability** Stable under recommended storage and handling conditions (see section 7).

**Conditions to avoid** Heating > 100 °C: May catch fire.

**Materials to avoid** No specific recommendations.

**Hazardous decomposition products** Oxide carbon

The material is considered stable at ambient temperatures and atmospheric pressures. It is not self reactive.

Hazardous polymerization does not occur.

Substances to Avoid: Oxidizing agent, acids, bases

### **11. TOXICOLOGICAL INFORMATION**

**Name** Ethylene thiourea

**Acute toxicity**

LD50 acute oral for rats: >265mg/kg

### **12. ECOLOGICAL INFORMATION**

**Name** Ethylene thiourea

**Ecotoxicity**

**fish** 96h-LC50 (Lepomis macrochirus): 7.9 mg/l.

96h-LC50 (Oncorhynchus mykiss): 5.4 mg/l.

96h-LC50 (Pimephales promelas): > 1000 mg/l.

**daphnia** 48h-EC50 (Daphnia magna): 18 mg/l.

**algae** 96h-IC50 (Selenastrum capricornutum): 1.1 mg/l.

**Fate**

**Degradation Biotic** Not readily biodegradable.

### **13. DISPOSAL CONSIDERATIONS**

**Product** Avoid discharge into the environment.

Small quantities: According to local regulations.



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Large quantities: Consult Richon for special advice.

**Contaminated packaging** According to local regulations.

**Other information** Waste code number: Please refer to your specific industry in the European Waste Catalogue.

### 14. TRANSPORT INFORMATION

*Land transport (ADR/ RID)*

**ADR class 9**

**RID class 9**

**ADR/RID packing group III**

**Hazard Identification No. 90**

**Substance Identification No. 3077**

**TREM-Card 3077912c01**

**UN number 3077**

**Proper Shipping Name** Environmentally hazardous substance, solid, n.o.s.

(Ethylene thiourea)

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(Ethylene thiourea)

*Sea transport (IMDG-code/ IMO)*

**IMO/IMDG code** not restricted

**Class** not restricted

**Packing group** not relevant

**UN number** none

**EMS** not relevant

**Subsidiary Risk** no

**Proper Shipping Name** not relevant

*Air transport (ICAO-TI/ IATA-DGR)*

**ICAO-TI/IATA-DGR**

**UN number 3077**

**Class 9**

**Packing group III**

**Proper Shipping Name** Environmentally hazardous substance, solid, n.o.s.

(Ethylene thiourea)

### 15. REGULATORY INFORMATION

**Chemical description** Ethylene thiourea

Worldwide Inventory Status

TSCA (USA): Listed

Canadian DSL: Listed

Canadian NDSL: Not Applicable. Listed on the DSL.

EINECS/ELINCS (Europe): Listed

Japanese Inventory (ENCS): Listed

Korean Chemical Inventory

(ECL): Listed

Australian Chemical Inventories

(AICS): Listed

New Zealand (NZ): Listed

Phillipines (PICCS) Inventory: Listed

China (CLECS): Listed

US Regulatory Rules

SARA Section 302: None

SARA 311/312 Hazard Immediate Health Hazard

MSDS-Accelerator ETU(NA-22)



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Categories:

SARA 313 Chemical: As Ethylene Thiourea DeMinimis

Concentration 0.1%

RCRA Status: HAZARDOUS WASTE

Other Regulations:

California Proposition 65: Carcinogen and Developmental Toxin

New Jersey Right-to-Know List: Listed Ethylene Thiourea **R(isk) phrase(s)** R 43 May cause sensitization by skin contact

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**S(afety) phrase(s)** S 24 Avoid contact with skin

S 37 Wear suitable gloves

S 60 This material and its container must be disposed of as hazardous waste

S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets

**Other information** To be displayed on the label: "EC label".

**Wassergefährdungsklasse (WGK)** 2 (VwVwS Anhang 3, Nr. 6605)

### **16. OTHER INFORMATION**

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.