

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)  
Classifications according to Regulation (EC) No 1272/2008.  
Printdate 16 Aug 2022

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product name:

Ethylene thiourea

### 1.1. Catalog No.:

674859

### 1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical  
uses: R&D

### 1.3. Uses advised against:

HPC Standards GmbH  
Am Wieseneck 7

04451 Cunnersdorf  
Deutschland

Tel. +49 34291 3372-36  
Fax. +49 34291 3372-39  
contact@hpc-standards.com

### 1.4. Emergency telephone number

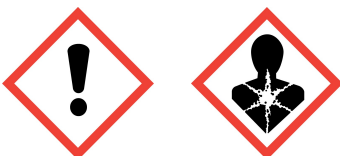
HPC Standards Tel. +49 34291 3372-36  
This number is only available during office hours.

## 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
Acute toxicity, Oral (Category 4), H302  
Carcinogenicity (Category 2), H351  
Reproductive toxicity (Category 1B), H360D  
Specific target organ toxicity - repeated exposure (Category 1), H372 Classification according to EU Directives 67/548/EEC or 1999/45/EC  
R61  
T Toxic R22, R40, R48/23/25

### 2.2. Label elements

#### 2.2.1. Pictogram



#### 2.2.2.

Signal word Danger Hazard statement(s)

H302 Harmful if swallowed.

H351 Suspected of causing cancer.

H360D May damage the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statement(s)

P201 Obtain special instructions before use.

P281 Use personal protective equipment as required.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard

Statements

none

Restricted to professional users.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

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

Molecular weight : 102,16 g/mol

CAS-No. : 96-45-7

EC-No. : 202-506-9

Index-No. : 613-039-00-9

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component Classification Concentration

2-Imidazolidinethione Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)

CAS-No.

EC-No.

Index-No.

96-45-7

202-506-9

613-039-00-9

Acute Tox. 4; Carc. 2; Repr.

1B; STOT RE 1; H302, H351,

H360D, H372

<= 100 %

Hazardous ingredients according to Directive 1999/45/EC

Component Classification Concentration

2-Imidazolidinethione Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)

CAS-No.

EC-No.

Index-No.

96-45-7

202-506-9

613-039-00-9

T, Repr.Cat.2, R61 - R22 -

R40 - R48/23/25

<= 100 %

#### 3.1.1. Formula

C<sub>3</sub>H<sub>6</sub>N<sub>2</sub>S

### 3.1.2. Molecular Weight (g/mol)

102.16

### 3.1.3. CAS-No.

96-45-7

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

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

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution If swallowed

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

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure

adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

## **7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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

**8.1 Control parameters**

Components with workplace control parameters

**8.2 Exposure controls**

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands. Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- a) Appearance Form: powder  
Colour: white
  - b) Odour No data available
  - c) Odour Threshold No data available
  - d) pH No data available
  - e) Melting point/freezing point  
No data available
  - f) Initial boiling point and boiling range  
347 °C
  - g) Flash point No data available
  - h) Evaporation rate No data available
  - i) Flammability (solid, gas) No data available
  - j) Upper/lower flammability or explosive limits  
No data available
  - k) Vapour pressure No data available
  - l) Vapour density No data available
  - m) Relative density 0,4512 g/cm<sup>3</sup> at 20 °C
  - n) Water solubility 27,4 g/l at 20 °C at 6,88 hPa - completely soluble
  - o) Partition coefficient: noctanol/water  
log Pow: -0,67 at 20 °C
  - p) Auto-ignition temperature  
No data available
  - q) Decomposition temperature  
No data available
  - r) Viscosity No data available
  - s) Explosive properties No data available
  - t) Oxidizing properties No data available
- ### 9.2 Other safety information
- Solubility in other solvents  
Ethanol - slightly soluble  
Benzene - insoluble  
Surface tension ca.65,7 mN/m at 23 °C

## 10. STABILITY AND REACTIVITY

- 10.1 Reactivity  
No data available
- 10.2 Chemical stability  
Stable under recommended storage conditions.
- 10.3 Possibility of hazardous reactions  
No data available
- 10.4 Conditions to avoid  
No data available
- 10.5 Incompatible materials  
No data available
- 10.6 Hazardous decomposition products  
Other decomposition products - No data available  
In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

## 11.1 Information on toxicological effects

### Acute toxicity

LD50 Oral - Rat - 1.832 mg/kg

### Skin corrosion/irritation

#### Skin - Rabbit

Result: No skin Irritation (OECD Test Guideline 404)

### Serious eye damage/eye irritation

#### Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

### Respiratory or skin sensitisation

#### - Mouse

Did not cause sensitisation on laboratory animals.

### Germ cell mutagenicity

#### in vitro assay

##### S. typhimurium

Result: negative

#### Mouse - male

Result: negative

### Carcinogenicity

#### Carcinogenicity - Rat - Oral

Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Endocrine: Thyroid tumors.

#### Carcinogenicity - Mouse - Oral

Tumorigenic: Carcinogenic by RTECS criteria. Liver: Tumors. Endocrine: Thyroid tumors.

#### Carcinogenicity - Rat - Oral

Tumorigenic: Carcinogenic by RTECS criteria. Endocrine: Thyroid tumors. Tumorigenic Effects: Testicular tumors.

#### Carcinogenicity - Rat - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors.

Limited evidence of carcinogenicity in animal studies

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (2-Imidazolidinethione)

### Reproductive toxicity

#### Reproductive toxicity - Rat - Oral

Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive). Effects on Newborn: Weaning or lactation index (e.g., # alive at weaning per # alive at day 4). Reproductive toxicity - Rat - Skin

Maternal Effects: Parturition. Effects on Newborn: Stillbirth. Effects on Newborn: Growth statistics (e.g., reduced weight gain).

#### Reproductive toxicity - Rat - Intraperitoneal

Effects on Fertility: Litter size (e.g., # fetuses per litter; measured before birth). Specific Developmental

Abnormalities: Central nervous system. Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive).

#### Reproductive toxicity - Mouse - Oral

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetal death. Specific Developmental Abnormalities: Musculoskeletal system.

### Presumed human reproductive toxicant

No data available

### Developmental Toxicity - Rabbit - Oral

Specific Developmental Abnormalities: Central nervous system.

Developmental Toxicity - Rat - Subcutaneous Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

### Specific Developmental

Abnormalities: Central nervous system. Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

### Specific target organ toxicity - single exposure

No data available

### Specific target organ toxicity - repeated exposure

No data available

### Aspiration hazard

No data available

### Additional Information

Repeated dose toxicity - Rat - male and female - No observed adverse effect level - 25 mg/kg - Lowest observed adverse effect level - 125 mg/kg

RTECS: NI9625000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish semi-static test LC50 - Poecilia reticulata (guppy) - 7.500 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to algae Growth inhibition EC50 - Chlorella pyrenoidosa - 6.600 mg/l - 96 h

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 0 % - Not readily biodegradable.

(OECD Test Guideline 301F)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

### 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

### 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Authorisations and/or restrictions on use

2-Imidazolidinethione CAS-No.: 96-45-7

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Toxic for reproduction (article 57c)

2-Imidazolidinethione CAS-No.: 96-45-7

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).  
Toxic for reproduction (article 57c)

ED/121/2013

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

## **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. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. For lab use only!