



Material Safety Data Sheet

Version: 01

Revision Date: 2-6-2025

| Section 1. Product Information and Company Identification | | | |
|---|---|---------|---------|
| Product name | Thiourea | | |
| Mol. formula | CH4N2S | CAS No. | 62-56-6 |
| Mol.wt | 76.12 g/mol | | |
| manufacturer name | Pioneers for laboratory chemicals | | |
| Brand name | Piochem | | |
| Address | Area 540, Industrial Zone 6th October city Giza, Egypt. | | |
| Website | www.piochem.com | | |
| E-mail | info@piochem.com | | |
| Phone number | 0 12 05700001 | | |

SECTION 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 2), H361d

Chronic aquatic toxicity (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

R40

R63

Xn Harmful R22 N Dangerous for the R51/53

environment

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram





Signal word Warning

Hazard statement(s)

H302 Harmful if swallowed.

H351 Suspected of causing cancer.

H361d Suspected of damaging the unborn child.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use. P273 Avoid release to the environment.

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you

feel unwell. Rinse mouth.

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

P391 Collect spillage.

P501 Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard

Statements

none

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.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Sulfourea

Thiocarbamide

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

Component Classification Concentration

Thiourea

CAS-No. 62-56-6 Acute Tox. 4; Carc. 2; Repr. 2; <= 100 %

EC-No. 200-543-5 Aquatic Chronic 2; H302, Index-No. 612-082-00-0 H351, H361d, H411

Hazardous ingredients according to Directive 1999/45/EC

Component Classification Concentration

Thiourea

CAS-No. 62-56-6 Xn, N, Carc.Cat.3, Repr.Cat.3, <= 100 %

EC-No. 200-543-5 R22 - R40 - R51/53 - R63

Index-No. 612-082-00-0

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

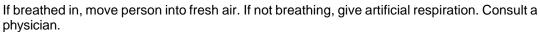
4.1 Description of first aid measures

General advice

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



If inhaled



In case of skin contact

Wash off with soap and plenty of water. 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

SECTION 5: Firefighting 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

SECTION 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. Discharge into the environment must be avoided.

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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

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

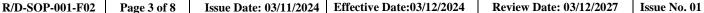
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Handle and store under inert gas.

Storage class (TRGS 510): Non Combustible Solids

7.3 Specific end use(s)





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



SECTION 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

Safety glasses with side-shields conforming to EN166 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. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form: crystalline **Appearance** a) Colour: white

Odour odourless b)

Odour Threshold No data available

рΗ d) 5,0 - 7 at 50 g/l at 20 °C

Melting point/freezing

point

Melting point/range: 170 - 176 °C

Initial boiling point and f)

boiling range

No data available

g) Flash point No data available **Evaporation rate** No data available h) No data available i) Flammability (solid, gas)

Upper/lower j) flammability or explosive limits No data available



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k) Vapour pressure No data available
 l) Vapour density No data available
 m) Relative density 1,405 g/cm3 at 20 °C

n) Water solubility 137 g/l at 20 °C

o) Partition coefficient: n- log Pow: -0,92 at 20 °C

octanol/water

p) Auto-ignition No data available

temperature

q) Decomposition No data available

temperature

r) Viscosity No data available

s) Explosive properties No data available

t) Oxidizing properties No data available

9.2 Other safety information

Bulk density 640 kg/m3

SECTION 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

Heat

10.5 Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases, Hydrogen peroxide, Sulphur oxides

10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 1.750 mg/kg

LC50 Inhalation - Rat - 4 h - > 170 mg/m3

LD50 Dermal - Rabbit - > 2.800 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit



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Result: Mild eye irritation (OECD Test Guideline 405)



Maximisation Test (GPMT) - Guinea pig Does not cause skin sensitisation.

Germ cell mutagenicity

No data available

in vitro assay

Result: Not mutagenic in Ames Test

Carcinogenicity

This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

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

Reproductive toxicity

Suspected human reproductive toxicant

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

RTECS: YU2800000

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

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish LC50 - Danio rerio (zebra fish) - 10,000 mg/l - 96,0 h

Toxicity to daphnia and

EC50 - Daphnia magna (Water flea) - 5,6 - 18,0 mg/l - 48 h

other aquatic invertebrates

Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - 6,8 mg/l - 96 h

12.2 Persistence and degradability

Biodegradability Biotic/Aerobic - Exposure time 31 d

Result: < 1 % - Not readily biodegradable.

12.3 Bioaccumulative potential

No data available

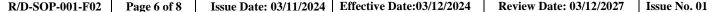
12.4 Mobility in soil

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

Toxic to aquatic life with long lasting effects.

SECTION 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.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 3077 IMDG: 3077 IATA: 3077

14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thiourea) IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thiourea)

IATA: Environmentally hazardous substance, solid, n.o.s. (Thiourea)

14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

14.6 Special precautions for user

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

SECTION 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

No data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox. Acute toxicity

Aquatic Chronic Chronic aquatic toxicity
Carc. Carcinogenicity
H302 Harmful if swallowed.

H351 Suspected of causing cancer.

H361d Suspected of damaging the unborn child.



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H411 Toxic to aquatic life with long lasting effects.

Repr. Reproductive toxicity

Full text of R-phrases referred to under sections 2 and 3

N Dangerous for the environment

Xn Harmful

R22 Harmful if swallowed.

R40 Limited evidence of a carcinogenic effect.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment.

R63 Possible risk of harm to the unborn child. Repr.Cat.3 Toxic to Reproduction Category 3



