

SAFETY DATA SHEET

Thiourea

Page 1
Issued: 17/10/2022
Revision No: 2

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

Product identifier:

Product name: THIOUREA
REACH registration number: 01-2119977062-37-XXXX
REACH registration notes: This substance has been REACH registered as Transported Isolated Intermediate. The downstream user must use the above product as a Transported Isolated Intermediate in accordance with „strictly controlled conditions“ as defined in Chapter 2, Article 18(4).
CAS number: 62-56-6
EC number: 200-543-5

Relevant identified uses of the substance or mixture and uses advised against:

Identified uses: Transported Isolated Intermediate.

Company name: Nexchem Ltd
Unit 3 Barshaw Park
Leycroft Road
Leicester
LE4 1ET
Tel: 0116 2311130
24/7 Emergency Tel: 0800 246 1274
Email: sales@nexchem.co.uk

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification (EC 1272/2008):

Physical hazards: Not Classified.
Health hazards: Acute Tox. 4 - H302 Carc. 2 - H351 Repr. 2 - H361d
Environmental hazards: Aquatic Chronic 2 - H411

Label elements:

EC number: 200-543-5

Hazard pictograms:



Signal word: Warning.

[cont...]

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 2

Hazard statements: H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H411 Toxic to aquatic life with long lasting effects.
H302 Harmful if swallowed.

Precautionary statements: P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P501 Dispose of contents/ container in accordance with national regulations.

Contains: THIOUREA.

Supplementary precautionary statements:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P308+P313 IF exposed or concerned: Get medical advice/ attention.
P330 Rinse mouth.
P391 Collect spillage.
P405 Store locked up.

Other hazards:

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

THIOUREA >=99.0% w/w - <=100.0% w/w

CAS number: 62-56-6

EC number: 200-543-5

Classification: Acute Tox. 4 - H302
Carc. 2 - H351
Repr. 2 - H361d
Aquatic Chronic 2 - H411

The full text for all hazard statements is displayed in Section 16.

Product name: THIOUREA

REACH registration number: 01-2119977062-37-XXXX

REACH registration notes: This substance has been REACH registered as Transported Isolated Intermediate. The downstream user must use the above product as a Transported Isolated Intermediate in accordance with „strictly controlled conditions“ as defined in Chapter 2, Article 18(4).

CAS number: 62-56-6

EC number: 200-543-5

Ingredient notes: All % values are "w/w".

[cont...]

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 3

4. FIRST AID MEASURES

Description of first aid measures:

General information:	No information available.
Inhalation:	Move affected person to fresh air at once. Keep affected person warm and at rest. Get medical attention immediately.
Ingestion:	Rinse mouth thoroughly with water. Give plenty of water to drink. Never give anything by mouth to an unconscious person. Get medical attention. Do not induce vomiting unless under the direction of medical personnel.
Skin contact:	Remove contaminated clothing. Rinse immediately with plenty of water.
Eye contact:	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.
Protection of first aiders:	No information available.

Most important symptoms and effects, both acute and delayed:

General information:	NO DATA AVAILABLE.
Inhalation:	No information available.
Ingestion:	No information available.
Skin contact:	No information available.
Eye contact:	No information available.

Indication of any immediate medical attention and special treatment needed:

Specific treatments:	No information available.
Notes for the doctor:	NO DATA AVAILABLE.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media:	Water spray, fog or mist. Foam.
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture:

Specific hazards:	Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours.
Hazardous combustion products:	No information available.

Advice for firefighters:

Protective actions during firefighting:	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Use special protective clothing. Regular protection may not be safe. Cool containers exposed to flames with water until well after the fire is out.
Special protective equipment for firefighters:	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

[cont...]

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 4

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Wear protective clothing as described in Section 8 of this safety data sheet. Avoid dust generation Avoid inhalation of dust. Evacuate area.

For non-emergency personnel: No information available.

For emergency responders: No information available.

Environmental precautions:

Environmental precautions: Do not discharge into drains or watercourses or onto the ground.

Methods and material for containment and cleaning up:

Methods for cleaning up: Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Avoid generation and spreading of dust. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Hold for waste disposal For waste disposal, see Section 13.

Reference to other sections:

Reference to other sections: Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. Collect and dispose of spillage as indicated in Section 13.

7. HANDLING AND STORAGE

Precautions for safe handling:

Usage precautions: This substance has been REACH registered as Transported Isolated Intermediate. The downstream user must use the above product as a Transported Isolated Intermediate in accordance with „strictly controlled conditions" as defined in Chapter 2, Article 18(4) Keep away from heat, sparks and open flame. Avoid handling which leads to dust formation.

Advice on general occupational hygiene: No information available.

Conditions for safe storage, including any incompatibilities:

Storage precautions: Store in tightly closed, original container in a dry, cool and well-ventilated place. Protect from light.

Storage class: No information available.

Specific end use(s): No data available.

Usage description: No information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Occupational exposure limits: No information available.

Ingredient comments: No exposure limits known for ingredient(s).

Biological limit values: No information available.

[cont...]

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 5

DNEL:

Industry - Inhalation; Long term systemic effects: 1 mg/m³
Industry - Dermal; Long term systemic effects: 3.4 mg/kg bw/day
Consumer - Inhalation; Long term systemic effects: 0.2 mg/m³
Consumer - Dermal; Long term systemic effects: 1.7 mg/kg bw/day
Consumer - Oral; Long term systemic effects: 0.1 mg/kg bw/day

DMEL: No information available.

PNEC:

Fresh water; 0.01 mg/L
Marine water; 0.001 mg/L
Intermittent release; 0.038 mg/L
STP; 0.38 mg/L
Sediment (Freshwater); 0.0725 mg/kg sediment dw
Sediment (Marine water); 0.00725 mg/kg sediment dw
Soil; 2.725 mg/kg soil dw

Exposure controls:

Protective equipment:



Appropriate engineering controls: Provide adequate general and local exhaust ventilation.

Personal protection: No information available.

Eye/face protection: The following protection should be worn: Chemical splash goggles. Safety glasses with side shields conforming to EN166.

Hand protection: Use protective gloves. Obtain the appropriate professional advice considering of the conditions under which the glove is used. The gloves must satisfy the specifications of EU directive 89/686/EEC and the standard EN 374 derived from it. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Polychloroprene natural latex liner Thickness: 0.6 mm protection index 6: breakthrough time >480 minutes.

Other skin and body protection: Wear appropriate clothing to prevent repeated or prolonged skin contact. Provide eyewash station and safety shower.

Hygiene measures: Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection: Wear respirator with particle filter.

Thermal hazards: No information available.

Environmental exposure controls: No information available.

[cont...]

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance:	Solid Crystalline solid.
Colour:	Colourless.
Odour:	Odourless.
Odour threshold:	Not available.
pH:	Not available.
Melting point:	~ 176°C
Initial boiling point and range:	Scientifically unjustified.
Flash point:	Scientifically unjustified.
Evaporation rate:	Not available.
Evaporation factor:	Not available.
Flammability (solid, gas):	Not available.
Upper/lower flammability or explosive limits:	Not available.
Other flammability:	Not available.
Vapour pressure:	0.00000009975 hPa @ °C
Vapour density:	Not available.
Relative density:	1.405 @ @ 20°C
Bulk density:	640.00 kg/m³
Solubility(ies):	90g/l @ °C Soluble in water.
Partition coefficient:	log Pow: -0.92
Auto-ignition temperature:	>240°C
Decomposition Temperature:	Not available.
Viscosity:	Scientifically unjustified.
Explosive properties:	Not available.
Explosive under the influence of a flame:	Not available.
Oxidising properties:	Not available.
Comments:	No information available.

Other information:

Other information:	No information available.
Refractive index:	No information available.
Particle size:	No information available.
Molecular weight:	No information available.
Volatility:	No information available.
Saturation concentration:	No information available.
Critical temperature:	No information available.
Volatile organic compound:	No information available.

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 7

10. STABILITY AND REACTIVITY

Reactivity: No information available.

Chemical stability:

Stability: Stable at normal ambient temperatures.

Possibility of hazardous reactions: Not noted.

Conditions to avoid: Avoid heat, flames and other sources of ignition.

Incompatible materials:

Materials to avoid: Strong oxidising agents. Strong acids. Strong bases.

Hazardous decomposition products: Oxides of the following substances: Sulphur. Nitrogen. Carbon.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Toxicological effects: To the best of our knowledge, the chemical/physical/toxicological properties have not been thoroughly investigated.

Other health effects: No information available.

Acute toxicity – oral:

Notes (oral LD₅₀): KLIMISCH RATING 1 2009 OECD423 LD₅₀ 2000-2500 mg/kg/day, Oral, Rat.

ATE oral (mg/kg): 500.0

Acute toxicity – dermal:

Acute toxicity dermal (LD₅₀ mg/kg): 2,800.0

Species: Rabbit.

Notes (dermal LD₅₀): Klimisch 2 1978 OECD 402 LD₅₀ >2800 mg/kg, Dermal, Rabbit.

Acute toxicity – inhalation:

Notes (inhalation LC₅₀): Klimisch 2 1979 OECD 403 LC₅₀ >195 mg/m³, Inhalation, Rat.

Skin corrosion/irritation:

Animal data: 1983 OECD 404 Klimisch rating 2 Dose: 0.5, 24 hours, Rabbit.

Human skin model test: No information available.

Extreme pH: No information available.

Serious eye damage/irritation:

Serious eye damage/irritation: Not irritating. klimisch rating 2 1981 OECD405.

[cont...]

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 8

Respiratory sensitisation:

Respiratory sensitisation: No information available.

Skin sensitisation:

Skin sensitisation: Guinea pig maximization test (GPMT) - Guinea pig: klimisch 2 1981 OECD 406.
Not sensitising.

Germ cell mutagenicity:

Genotoxicity - in vitro: Klimisch rating 2 1977 OECD471 Bacterial reverse mutation test: Negative.

Klimisch rating 2 1981 OECD471 Bacterial reverse mutation test: Negative.

Genotoxicity - in vivo: Inconclusive data.

Carcinogenicity:

Carcinogenicity: Not available.

Target organ for carcinogenicity: No information available.

IARC carcinogenicity: No information available.

NTP carcinogenicity: No information available.

Reproductive toxicity:

Reproductive toxicity - fertility: Fertility: NOAEL 35 mg/kg/day, Oral, Rat P weight of evidence klimisch 2 1948

Reproductive toxicity – development: Maternal toxicity: LOAEL: 50 mg/kg/day, Oral, Lamb klimisch 2 2001

Specific target organ toxicity - single exposure:

STOT - single exposure: Not available.

Target organs: No information available.

Specific target organ toxicity - repeated exposure:

STOT - repeated exposure: LOAEL 30 mg/l/6hr/day, Oral, Rat 1979 klimisch 2 OECD 407

Target organs: No information available.

Aspiration hazard: No information available.

Toxicokinetic: No information available.

General information: No information available.

Inhalation: No information available.

Ingestion: No information available.

Skin contact: No information available.

Eye contact: No information available.

Acute and chronic health hazards: This chemical can be hazardous when inhaled and/or touched. Known or suspected carcinogen for humans. Depression of bone marrow function. Liver and/or kidney damage.

Route of exposure: No information available.

Target organs: No information available.

Medical symptoms: No information available.

Medical considerations: No information available.

[cont...]

12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available.

Toxicity:

Toxicity: No information available.

Acute aquatic toxicity:

Acute toxicity – fish: LC50, 48 hours: > 10000 mg/l, *Leuciscus idus* (Golden orfe)
 klimisch rating 1
 1988
 DIN 38412

Acute toxicity – aquatic invertebrates: EC₅₀, 96 hours: 1.8 mg/l, *Daphnia magna*
 klimisch rating 3
 1974

Acute toxicity - aquatic plants: EC₅₀, 96 hours: > 4.8 mg/l, *Scenedesmus subspicatus*
 klimisch rating 3
 1985

Acute toxicity – microorganisms: Not available.

Acute toxicity – terrestrial: No information available.

Chronic aquatic toxicity:

Chronic toxicity - fish early life stage: NOEC, 14 days: 5000 mg/l, *Brachydanio rerio* (Zebra Fish)

Short term toxicity – embryo and sac fry stages: No information available.

Chronic toxicity – aquatic invertebrates: No information available.

Toxicity to soil: No information available.

Toxicity to terrestrial plants: No information available.

Persistence and degradability:

Persistence and degradability: The product is not biodegradable.

Photo transformation: No information available.

Stability (hydrolysis): No information available.

Biodegradation: Water - 0: 28 days
 klimisch rating 2
 1989
 OECD 301C

Biological oxygen demand: No information available.

Chemical oxygen demand: No information available.

Bioaccumulative potential:

Bioaccumulative potential: BCF: < 10, *Leuciscus idus* (Golden orfe) klimisch rating 3 1985

Partition coefficient: log Pow: -0.92

[cont...]

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 10

Mobility in soil:

Mobility: No information available.

Adsorption/desorption coefficient: No information available.

Henry's law constant: 0.000000006 Pa m³/mol @ °C klimisch rating 4

Surface tension: No information available.

Results of PBT and vPvB assessment:

Results of PBT and vPvB assessment: This substance is not classified as PBT or vPvB according to current EU criteria.

Other adverse effects:

Other adverse effects: Not available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

General information: No information available.

Disposal methods: Waste material and any included combustible absorbent and containers should be suitable for incineration at an approved facility. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class: No information available.

14. TRANSPORT INFORMATION

UN number:

UN No. (ADR/RID): 3077

UN No. (IMDG): 3077

UN No. (ICAO): 3077

UN proper shipping name:

Proper shipping name (ADR/RID): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (THIOUREA)

Proper shipping name (IMDG): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (THIOUREA)

Proper shipping name (ICAO): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (THIOUREA)

Proper shipping name (ADN): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (THIOUREA)

Transport hazard class(es):

ADR/RID class: 9

ADR/RID label: ENVIRONMENTALLY HAZARDOUS SYMBOL

IMDG class: 9

ICAO class/division: 9

Transport labels:



[cont...]

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 11

Packing group:

ADR/RID packing group: III

IMDG packing group: III

ICAO packing group: III

Environmental hazards:

Environmentally hazardous substance/marine pollutant:



Special precautions for user:

Hazard Identification Number (ADR/RID): 90 Environmentally hazardous substance; miscellaneous dangerous substances.

Transport in bulk according to Annex II of MARPOL and the IBC Code:

15. REGULATORY INFORMATION

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

National regulations:

Health and Safety at Work etc. Act 1974 (as amended).

Control of Substances Hazardous to Health Regulations 2002 (as amended).

Control of Pollution Act 1974.

Control of Pollution (Special Waste) Regulations 1980 (as amended).

EU legislation:

Commission Regulation (EU) No 2015/830 of 28 May 2015.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance:

Introduction to Local Exhaust Ventilation HS(G)37.

Workplace Exposure Limits EH40.

Health and environmental listings: No information available.

Authorisations (Annex XIV Regulation 1907/2006): No information available.

Restrictions (Annex XVII Regulation 1907/2006): No information available.

Chemical safety assessment: An Exposure Scenario has not been prepared as a CSR was not required for registration.

[cont...]

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 12

Inventories:

EU - EINECS/ELINCS:	No information available.
Canada - DSL/NDL:	No information available.
US – TSCA:	No information available.
US - TSCA 12(b) Export Notification:	No information available.
Australia – AICS:	No information available.
Japan – ENCS:	No information available.
Korea – KECI:	No information available.
China – IECSC:	No information available.
Philippines – PICCS:	No information available.
New Zealand – NZIOC:	No information available.
Taiwan – TCSI:	No information available.
South Korea:	No information available.

Note:

The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Abbreviations and acronyms used in the safety data sheet:

ECHA: European Chemicals Agency.
ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
CLP: Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008.
CAS# / CAS NO. CAS-numero (eräs kemikaalien tunnistenumero).
CMR: Carcinogen, Mutagen, or Reproductive Toxicant.
DNEL: Derived No Effect Level.
EC NO.: EINECS and ELINCS Number (see also EINECS and ELINCS).
EINECS: European Inventory of Existing Commercial Substances.
ELINCS: European List of notified Chemical Substances.
eSDS /ext.-SDS: Extended Safety Data Sheet (SDS with ES attached).
EU: European Union.
GHS: Globally Harmonized System.
ES: Exposure Scenario.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
LC50: Lethal Concentration to 50 % of a test population.
LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).
MSDS: Material Safety Data Sheet.
SDS: Safety Data Sheet.

[cont...]

SAFETY DATA SHEET

Thiourea

Issued: 17/10/2022

Page 13

PBT: Persistent, Bioaccumulative and Toxic substance.

PPE: Personal Protection Equipment.

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

SCBA: Self-Contained Breathing Apparatus.

SIEF: Substance Information Exchange Forum.

STOT: Specific Target Organ Toxicity.

STOT (RE): Repeated Exposure.

STOT (SE): Single Exposure.

SVHC: Substances of Very High Concern.

UN: United Nations.

vPvB: Very Persistent and Very Bioaccumulative.

Hazard statements in full:

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.

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation.

This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.