

## Technical Data Sheet (TDS)

### 1. Product Overview

- Product Name: Thiourea
- English Name: Thiourea; Thiocarbamide
- CAS Number:62-56-6
- Formula:CH<sub>4</sub>N<sub>2</sub>S
- Molecular Weight:76.12 g/mol
- Product Characteristics: White crystalline powder with a faint sulfur odor. High-purity thiourea with excellent reducing and complexing properties. Moderately toxic, non-flammable, and soluble in water. Suitable for chemical synthesis, electroplating, and laboratory research.

### 2. Technical Specifications

Item	Specification
Appearance	White crystalline powder
Purity (HPLC)	≥ 99.0%
Melting Point	171-175°C
Water Content	≤ 0.5%
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Iron (Fe)	≤ 1 ppm
Non-Volatile Residue	≤ 0.05%
Solubility (25°C)	142 g/L in water
pH Value (1% aqueous solution, 25°C)	5.0-6.5

### 3. Product Advantages

1. High Purity: Low impurity content ensures stable reactivity in synthesis.
2. Strong Reducibility: Ideal for redox reactions and metal ion complexation.
3. Versatile Application: Key intermediate for pharmaceuticals, dyes, and pesticides.
4. Good Solubility: Soluble in water, suitable for aqueous reaction systems.

### 4. Application Fields

- Chemical Synthesis: Precursor for thiourea derivatives, pharmaceuticals, and agrochemicals.
- Electroplating: Complexing agent in gold, silver, and copper electroplating.
- Laboratory Research: Analytical reagent, reducing agent, and metal ion chelator.
- Industrial Processing: Rubber vulcanization accelerator, textile dyeing auxiliary.

### 5. Usage Methods

- Dosage: 5-20% concentration (adjust by application).
- Application: Dissolve in water before use; avoid contact with strong oxidizers and acids.
- Optimal Conditions: Operate in well-ventilated areas; store away from high temperature.

### 6. Packaging & Storage

- Packaging: 1kg/5kg HDPE bags, 25kg cardboard drums, 50kg steel drums (UN-approved).
- Storage: Cool, dry, well-ventilated warehouse ( $\leq 30^{\circ}\text{C}$ ); sealed, away from heat/sparks/oxidizers.
- Shelf Life: 24 months (unopened, specified conditions).
- Transportation: Non-hazardous; transport by ordinary vehicles.

### 7. Safety & Protection

- Moderately toxic; avoid dust inhalation, skin contact, and ingestion.
- Wear dust mask, nitrile rubber gloves, and safety glasses during handling.
- In case of eye contact, rinse with plenty of water for 5-10 minutes.

### 8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Each batch comes with a COA for compliance verification.
- Provide technical support for synthesis optimization and safety operation.