

## Technical Data Sheet (TDS)

### 1. Product Overview

- Product Name: Isothiazolinones Aqueous Solution - English Name: Isothiazolinones - CAS Number: 55965-84-9 - Formula: Mixture (Mainly 5-Chloro-2-methyl-4-isothiazolin-3-one & 2-Methyl-4-isothiazolin-3-one) - Molecular Weight: 149.58 (CMIT) / 115.17 (MIT) g/mol - Product Characteristics: High-efficiency, broad-spectrum non-oxidizing biocide and preservative. Features strong inhibitory and killing effects on bacteria, fungi, algae, and yeast with low dosage. Good compatibility with water treatment agents, paints, and daily chemical products. Stable under proper storage conditions; non-flammable but corrosive and skin-sensitizing; requires proper handling and protective measures.

### 2. Technical Specifications (Complies with GB/T 26373-2010)

Item	Specification
Appearance	Colorless to pale yellow transparent liquid, slight characteristic odor
Total Active Ingredient Content	4.5-5.5% (CMIT:MIT = 3:1)
pH Value (25°C)	2.0-4.0
Density (25°C)	1.02-1.06 g/cm <sup>3</sup>
Heavy Metals (Pb)	≤ 0.0005%
Arsenic (As)	≤ 0.0001%
Chloride Content (as Cl <sup>-</sup> )	≤ 1.0%
Stability (25°C, 12 months)	≥ 90% Active Ingredient Retention
Solubility (20°C, water)	Fully miscible
Flash Point	Not applicable (non-flammable)

### 3. Product Advantages

1. Broad-Spectrum Biocidal Effect: Efficiently inhibits and kills bacteria, fungi, algae, and yeast; effective against drug-resistant strains and biofilms. 2. Ultra-Low Dosage: Active at 0.1-10 mg/L,

significantly reducing usage cost compared to traditional biocides. 3. Excellent Compatibility: Compatible with anionic, cationic, and non-ionic surfactants; suitable for various water systems and product formulas. 4. Fast-Acting & Long-Lasting: Takes effect within minutes; maintains biocidal activity for a long time, reducing application frequency. 5. Environmentally Friendly: Biodegradable; no persistent toxic residues in the environment when used as directed.

#### 4. Application Fields

- Water Treatment: Cooling water system, reverse osmosis system, circulating water system biocidal algae control; sewage and wastewater anti-odor and anti-mildew. - Coatings & Adhesives: Paint, emulsion, and adhesive preservation; prevents microbial degradation and mildew during storage and use. - Textile & Leather: Textile fabric anti-mildew finishing; leather processing anti-bacterial and anti-mildew treatment. - Daily Chemicals: Preservative for detergents, shampoos, and cosmetics (complies with national regulatory limits); industrial cleaning agent anti-microbial. - Other Fields: Paper and pulp anti-mildew; metalworking fluid preservation; building material anti-microbial treatment.

#### 5. Usage Methods

- Dosage (as total active ingredient): - Cooling Water Treatment: 0.5-2.0 mg/L (shock dose: 5-10 mg/L), add once every 7-14 days. - Paint/Adhesive Preservation: 0.1-0.5% (based on product weight), add during production. - Textile Anti-Mildew: Dilute to 0.05-0.1% solution, soak or spray, dry naturally. - Daily Chemicals: 0.001-0.01% (strictly comply with national regulatory limits). - Usage: Dilute with water before use; stir evenly; avoid mixing with strong oxidizers or strong bases. - Optimal Conditions: Use at 10-40°C; pH 4.0-8.0 for best biocidal effect; avoid exposure to UV light during application.

#### 6. Packaging & Storage

- Packaging Specifications: 25 kg HDPE plastic drums; 200 kg HDPE plastic drums; 1000 kg IBC totes; custom packaging available upon request. - Storage Conditions: Store in cool, dark, well-ventilated warehouse ( $\leq 25^{\circ}\text{C}$ ); keep container tightly closed; avoid direct sunlight, high temperature, and moisture; store separately from strong oxidizers, strong bases, and food-grade materials. - Shelf Life: 12 months (unopened, specified conditions); use promptly after opening, seal tightly after each use. - Transportation: UN 3265 (Class 8 Corrosive); transport in corrosion-resistant vehicles; avoid collision, leakage, and exposure to sunlight/heat; do not transport with incompatible substances.

#### 7. Safety & Protection

- Corrosive, skin-sensitizing, and highly toxic to aquatic organisms. - Operators must wear chemical goggles, face shield, nitrile gloves, and acid-resistant protective clothing; avoid skin/eye contact and inhalation of vapors. - In case of skin contact, rinse with plenty of water for  $\geq 15$  minutes; if allergic reactions occur, seek medical attention immediately. - In case of eye contact, rinse with water/normal saline for  $\geq 15$  minutes and seek emergency medical help. - Do not ingest; keep away from children and pets; avoid contamination of water sources and aquatic environments. - Avoid mixing with strong oxidizers, strong bases, or reducing agents (risk of violent reaction or decomposition).

#### 8. Quality Assurance

- Manufactured in accordance with ISO 9001 quality management system standards. - Each batch is strictly tested with a Certificate of Analysis (COA) to meet GB/T 26373-2010 and international quality standards. - Provide professional technical support: dosage adjustment based on specific application scenarios, formula compatibility guidance, and safe operation training.