**Product Name:** Amikacin Sulfate, USP (1:2)  
**Product Number:** A003  
**CAS Number:** 39831-55-5  
**Molecular Formula:** $C_{22}H_{43}N_5O_{13} \cdot 2H_2SO_4$  
**Molecular Weight:** 781.76  
**Form:** Powder  
**Appearance:** White crystalline powder  
**Solubility:** Freely soluble in water (50 mg/ml)  
**Source:** Semi-synthetic  
**pH:** 2.0 - 4.0  
**Optical Rotation:** $+76^\circ$ to $+84^\circ$  
**Storage Conditions:** 2-8°C  

**Description:** Amikacin Sulfate is a broad-spectrum aminoglycoside antibiotic derived from its counterpart, Kanamycin A. Amikacin Sulfate (A003) contains an Amikacin:Sulfate ratio of 1:2. TOKU-E offers three forms of Amikacin:

- Amikacin Sulfate (1:2) (A003)  
- Amikacin Sulfate (1:1.8) (A070)  
- Amikacin Hydrate (A002)  

All forms have similar potencies and are freely soluble in water (50 mg/mL).

**Mechanism of Action:** Amikacin Sulfate binds to the 30S ribosomal subunit (specifically the 16S rRNA and S12 protein) resulting in interference with the translational initiation complex and mRNA misreading, which leads to a faulty or nonexistent protein.

**Spectrum:** Gram-negative and Gram-positive bacteria. *Mycobacterium tuberculosis* is also susceptible to Amikacin.
**Microbiology Applications** Amikacin Sulfate is commonly used in clinical *in vitro* microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against Gram-negative microbial isolates. Medical microbiologists use this information to recommend antibiotic treatment options for infected patients. Samples of microbes grown in presence of a 30 µg Amikacin disc with a zone of inhibition of <14 mm in diameter are considered resistant. Intermediate resistance zones of inhibition are typically 15 mm-16 mm in diameter. Representative MIC values include:

- *Pseudomonas aeruginosa* 0.25 µg/mL - 512 µg/mL
- *Serratia marcescens* ≤0.25 µg/mL — >32 µg/mL
- For a complete list of amikacin MIC values, click here.

**References:**


If you need any help, contact us: info@toku-e.com. Find more information on: www.toku-e.com/