Product Name: Amikacin Sulfate, USP (1:2)
Product Number: A003
CAS Number: 39831-55-5
Molecular Formula: \( \text{C}_{22}\text{H}_{43}\text{N}_{5}\text{O}_{13} \cdot 2\text{H}_{2}\text{SO}_{4} \)
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° to +84°
Storage Conditions: 2-8°C
Description: Amikacin Sulfate is 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 (1). 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/