



# Netilmicin sulfate PRODUCT DATA SHEET

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<b>Product Name:</b>	Netilmicin sulfate
<b>Product Number:</b>	N004
<b>CAS Number:</b>	56391-57-2
<b>Molecular Formula:</b>	$C_{21}H_{41}N_5O_7 \cdot 2.5 H_2SO_4$
<b>Molecular Weight:</b>	720.78
<b>Form:</b>	Powder
<b>Appearance:</b>	White or almost white powder
<b>Solubility:</b>	highly soluble in aqueous solution
<b>Source:</b>	Semi-synthetic
<b>pH:</b>	3.5-5.5
<b>Optical Rotation:</b>	+88° to +96°
<b>Storage Conditions:</b>	2-8°C
<b>Description:</b>	<p>Netilmicin Sulfate is the sulfate salt form of Netilmicin, a semisynthetic, broad-spectrum aminoglycoside antibiotic. It is a 1-N-ethyl derivative of the natural antibiotic sisomycin produced by fermentation of <i>Micromonospora inyoensis</i> that has a similar mechanism of action to Gentamicin. Netilmicin was patented in 1973 by Schering-PloughIt can be used as an analytical standard, in antimicrobial susceptibility testing, or in studying aminoglycoside resistance. Netilmicin is highly soluble in aqueous solution.</p>
<b>Mechanism of Action:</b>	<p>Aminoglycosides target the 30S ribosomal subunit (specifically the 16S rRNA and S12 protein) resulting in an inability to read mRNA ultimately producing a faulty or nonexistent protein. Netilmicin also induces misreading of the mRNA template resulting in premature termination, eventually leading to death of the bacterial cells.</p>
<b>Spectrum:</b>	<p>Netilmicin Sulfate can be used against Gram-negative and some Gram-positive bacteria including some Gentamicin-resistant strains. Aminglycosides are not active against anaerobic organisms.</p>
<b>Microbiology Applications</b>	<p>Netilmicin Sulfate is commonly used in clinical <i>in vitro</i> microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against Gram-positive and Gram-negative microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients. Representative MIC values include:</p> <ul style="list-style-type: none"><li>• <i>Pseudomonas aeruginosa</i> 0.5 µg/mL - 1 µg/mL</li><li>• <i>Staphylococcus aureus</i> 0.008 µg/mL - 4 µg/mL</li></ul>

For a complete list of Netilmicin MIC values, [click here](#).

**References:**

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