# Gentamicin C1 Sulfate, EvoPure®
# PRODUCT DATA SHEET

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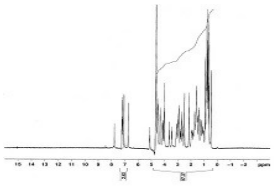
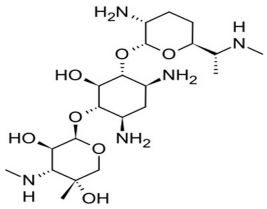
| **Product Name:** | Gentamicin C1 Sulfate, EvoPure® |
| **Product Number:** | G031 |
| **CAS Number:** | 38539-12-7 |
| **Molecular Formula:** | $C_{21}H_{43}N_5O_7 \cdot xH_2SO_4$ (lot specific) |
| **Molecular Weight:** | 477.59 g/mol (Free base) |
| **Form:** | Powder |
| **Appearance:** | White powder |
| **Source:** | *Micromonospora* spp. |
| **pH:** | 3.5-5.5 |
| **Storage Conditions:** | -20°C |
| **Description:** | Gentamicin C1 Sulfate, EvoPure® is ≥95.0% Gentamicin C1. Gentamicin C1 makes up 25-50% of Gentamicin depending on the manufacturer or manufacturing process. Gentamicin C1 Sulfate is part of the Gentamicin C complex (gentamicin C1, gentamicin C1a, and gentamicin C2). Gentamicin C1 differs from Gentamicin C1a by a methyl group in the 6' position of the purpurosamine (2-amino-hexose) ring. The complex accounts for approximately 80% standard grade gentamicin and has the most potent antimicrobial activity, thought to be due to the lack of hydroxy groups on the 3' and 4' positions of the purpurosamine (2-amino-hexose) fragments.<br>For more Gentamicin products, click here. |
| **Mechanism of Action:** | Aminoglycosides target the 30S ribosomal subunit resulting in an inability to read mRNA ultimately producing a faulty or nonexistent protein. |
| **Spectrum:** | Gentamicin is a broad-spectrum antibiotic and is active against several Gram-positive and Gram-negative bacteria. |
| **Microbiology Applications** | Gentamicin EvoPure® compounds can be used to study effects of individual Gentamicin components on various bacterial strains.<br>Representative MIC values include:<br>• *Bacillis subtilis* ATCC 6633: 0.02 µg/mL<br>• *Escherichia coli* ATCC 10536: 0.9µg/mL<br>• *Staphylococcus aureus* ATCC 6538P 0.05 µg/mL |

**Technical Data:**

## HNMR Spectra

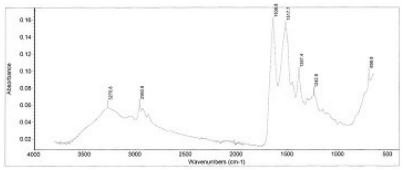





Click to enlarge

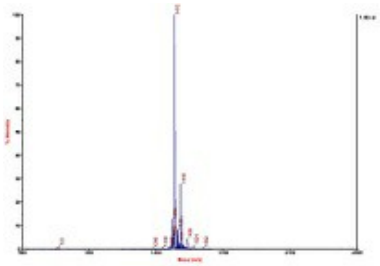
**Solvent:** D2O
**Instrument:** Mercury 300
**Frequency:** 300 MHz

## FTIR Spectra



Click to enlarge

## Mass Spectra



Click to enlarge

**Polarity/Scan Type:** Positive
**Solvent:** Water
**Solution Concentration:** 10 mg/mL
**Instrument:** Agilent

**References:**


Davis BD (1987) Mechanism of bactericidal action of aminoglycosides. Microbiol. Rev. 51(3): 341-350 PMD 3312985

Huang C et al (2015) Delineating the biosynthesis of gentamicin X2, the common precursor of the gentamicin C antibiotic complex. Chem. Biol. 22(2):251-261 PMID 25641167

Stypulkowska K, Blazewicz A, Fijalek Z, and Sarna K (2010) Determination of gentamicin sulphate composition and related substances in pharmaceutical preparations by LC with charged aerosol detection. Chromatograph. 72(11-12):1225-1229 PMID 21212825

Vydrin, AF (2003) Component composition of gentamicin sulfate preparations. Pharma. Chem. J 37(8): 448-449

Weinstein, MJ (1967) Biological activity of the antibiotic components of the Gentamicin complex. J. Bacteriol. 94(3):789-90.