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| ClearLine | Technical data sheet<br>Raw Powder | Ref : 509360 |

# Gentamicin Sulfate

**CAS N°:** 1405-41-0

**Molecular weight**: 694.75 - 723.75 g/mol

**Chemical formula:** $C_{19\text{-}21}H_{39\text{-}43}N_5O_7 \cdot 2.5H_2SO_4$

**Colour**: white

**Storage conditions**: +2°C to +8°C

**Shelf life**: 48 months

**Stability:** 5 days at 37°C for the stock solution

**Tests and Specifications**:

| Tests | General specifications |
|---|---|
| Appearance | white or almost white powder |
| Activity (anhydrous substance) | ≥ 590 I.U./mg |
| pH (4 %; H2O) | 3.5 - 5.5 |
| Specific rotation (10 %; H2O; anhydrous substans) | +107° - +121° |
| Sulfated ash | ≤ 1.0% |
| Water (K.F.) | ≤ 15% |
| Sulfate (anhydrous substans) | 32.0 - 35.0 % |

**Recommended use**:
Prepare a stock solution in distilled water at 50 mg/ml. Stock solutions should be stored at −20 °C.
Use in cell culture applications at 1 ml/l. This concentration is for tissue culture media containing serum ; serum-free media generally require lower concentration.

- Respect storage conditions of the product
- Do not use the product after its expiry date
- Store the product in a dry area
- Wear clothes adapted to the manipulation of the product to avoid contamination (e.g. : gloves, mask, hygiene cap, overall…)
- Protect the product from any form of humidity
- Use, in one time, after opening, the entire quantity of product of the container. If it is not possible, close the container immediately after sampling the quantity of powder required.

The product is intended to be used in vitro for research or further manufacturing only and not for use as an Active Pharmaceutical Ingredient or food or animal feed.

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**Mode of ation:** Gentamicin Sulfate binds to subunit 30S of bacteria's ribosomes to cause misreading and perturb protein synthesis.

**Antimicrobial spectrum:**
Gram-negative and Gram-positive bacteria, mycoplasma.

**Application**:
Antibiotics, combined with good sterile technique, help to prevent microbiological contamination.

When an irreplaceable culture becomes contaminated, determine if the contamination is due to bacteria, fungus, mycoplasma, or yeast. Isolate the contaminated culture from other cell lines. Clean incubators and laminar flow hoods with a laboratory disinfectant, and check HEPA filters.

Gentamicin Sulfate solution at high concentration can be toxic to some cell lines; perform a dose response test to determine the level at which Gentamicin Sulfate solution becomes toxic.

The following is a suggested procedure for determining toxicity levels and decontaminating cultures.

1) Dissociate, count, and dilute the cells in antibiotic free medium. Prepare the cells to the concentration used for regular cell passage.
2) Dispense the cell suspension into a multiwell culture plate or several small flasks. Add the Gentamicin Sulfate solution to each well in a range of concentrations.
3) Observe the cells daily for signs of toxicity such as sloughing, appearance of vacuoles, decrease in confluency, and rounding.
4) When the toxic level has been determined, culture the cells for two to three passages using the Gentamicin Sulfate solution at a concentration one to two fold lower than the toxic concentration.
5) Culture the cells for one passage in an antibiotic-free media.
6) Repeat step 4.
7) Culture the cells in antibiotic-free medium for 4 to 6 passages to determine if the contamination has been eliminated.

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