MEDISCA® NETWORK INC.
TECHNICAL SUPPORT SERVICES
FORMULATION CHEMISTRY DEPARTMENT
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Suggested Formula	Tobramycin 40 mg/mL Injection (Solution, 20 mL)	FIN	F 005 008v2

SUGGESTED FORMULATION

Ingredient Listing	Qty.	Unit	NDC #	Supplier	Lot Number	Expiry Date
Tobramycin Sulfate, USP **	1.200	g				
Sodium Chloride, USP	0.04	g				
Benzyl Alcohol, NF	0.2	mL				
Sterile Water For Injection, USP	15.0	mL				
Sterile Water For Injection, USP	q.s. to 20.0	mL				
Sodium Hydroxide 10% Solution	As required					
Hydrochloric Acid 10% Solution	As required					

**Tobramycin Sulfate 1.200 g is equivalent to Tobramycin 0.800 g.

SPECIAL PREPARATORY CONSIDERATIONS

Ingredient-Specific Information

Hygroscopic *(protect from moisture whenever possible):* *Tobramycin Sulfate*

Light sensitive *(protect from light whenever possible):* *Benzyl Alcohol*

Narrow Therapeutic Index *Tobramycin Sulfate*

Suggested Preparatory Guidelines

☐ Non-Sterile Preparation ■ Sterile Preparation

Processing Error / Testing Considerations: To account for processing error, pH testing, sterility and endotoxin testing considerations during preparation, it is suggested to measure an additional **15 to 20%** of the required quantities of ingredients.

Special Instruction: This formula must be prepared within the appropriate facilities under adequate environmental conditions, following the necessary guidelines and procedures as stated within *USP 797*. Only trained and qualified personnel must prepare this formula.

All heat stable, reusable materials and equipment must be sterilized and depyrogenated by dry heat sterilization at 250°C for 2 hours prior to use.

Every batch of final product compounded using this procedure must be sterility and endotoxin tested before being dispensed.

Protective apparel, such as a sterile gown, sterile gloves, shoe covers, head cap, eyewear and face-masks should always be worn. In addition, proper personnel cleansing must be done before entering the buffer or clean area.

Filter integrity must be validated by performing a filter stress test. If the test demonstrates that the filter might be defective, the solution must be discarded and remade.

Tobramycin Sulfate has a narrow therapeutic index.

This procedure requires the use of very small quantities of ingredients. All calculations and preparation techniques must be verified before dispensing the final product.

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SUGGESTED PREPARATION (for 20 mL)

Weigh and / or measure the following ingredients when appropriate:

Ingredient Listing	Qty.	Unit	Multiplication factor (*): ____	Processing Error	Qty. to measure
Tobramycin Sulfate, USP §	1.200	g			
Sodium Chloride, USP §	0.04	g			
Benzyl Alcohol, NF §	0.2	mL			
Sterile Water For Injection, USP §	15.0	mL			
Sterile Water For Injection, USP §	q.s. to 20.0	mL			
Sodium Hydroxide 10% Solution §	As required				
Hydrochloric Acid 10% Solution §	As required				

* Takes into account increased batch size conversions and density conversions, if required.
§ Weigh / measure just prior to use.

Preparatory Instruction

IMPORTANT: All preparatory procedures must be performed using proper Aseptic Technique

1. **Equipment sterilization:**

   Following the manufacturer's specifications, sterilize and depyrogenate all heat stable, reusable materials and equipment, then return to ambient temperature.

2. **Powder-liquid preparation:**

   A. In the given order, sequentially add the following ingredients to the Sterile Water for Injection (15.0 mL *plus* processing error adjustments):

   -Tobramycin Sulfate
   -Sodium Chloride
   -Benzyl Alcohol

   Specifications: Continuously mix until all solid particles have completely dissolved.

   End result: Homogeneous liquid-like solution.

   Note: Add the next ingredient, once the previous one has been completely added and dissolved.

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3.	**pH testing:** A. Draw an appropriate amount of the mixture (Step 2A). B. Test the pH of the sample. It should lie between 5.8 and 6.2. C. If the pH < 5.8, carefully add, in a dropwise fashion, the Sodium Hydroxide 10% Solution to the mixture: 1. Draw and transfer 1 or 2 drops of the Sodium Hydroxide 10% Solution to the mixture. 2. Stir for at least 5 minutes to evenly disperse the Sodium Hydroxide 10% Solution. 3. Re-test the pH. 4. Continue to add the Sodium Hydroxide 10% Solution until the pH of 5.8 to 6.2 is obtained. IMPORTANT: Do not allow the pH to rise above 6.2. D. If the pH > 6.2, carefully add, in a dropwise fashion, the Hydrochloric Acid 10% Solution to the mixture: 1. Draw and transfer 1 or 2 drops of the Hydrochloric Acid 10% Solution to the mixture. 2. Stir for at least 5 minutes to evenly disperse the Hydrochloric Acid 10% Solution. 3. Re-test the pH. 4. Continue to add the Hydrochloric Acid 10% Solution until the pH of 5.8 to 6.2 is obtained. IMPORTANT: Do not allow the pH to fall below 5.8.
4.	**Filling to volume:** A. Add additional Sterile Water For Injection to the above mixture to fill to the required batch size (20.0 mL *plus* processing error adjustments). Specifications: Continuously mix. End result: Homogeneous liquid-like solution.
5.	**Filtering and transferring:** Aseptically filter the solution through a 0.22-µm sterile filter into the recommended dispensing container (see Packaging requirements). Transfer the remainder into separate dispensing containers. These are to be used as the Test samples for sterility and endotoxin testing.
6.	**Filter integrity test:** Validate filter integrity by performing a filter stress test. If the test demonstrates that the filter might be defective, the solution must be discarded and remade.
7.	**Sterility testing:** Validate the Test samples for sterility and endotoxins, in accordance to current USP 797 regulatory guidelines.

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SUGGESTED PRESENTATION

Estimated Beyond-Use Date		14 days, refrigerated as per USP 797. BUD based on a successful sterility and endotoxin test result.	Packaging Requirements		Sterile, tightly closed, light-resistant, unit-dose injection vials.
Auxiliary Labels	1	Use as directed. Do not exceed prescribed dose.		7	Consult your health care practitioner if any prescription or over-the-counter medications are currently being used or are prescribed for future use.
	2	Keep out of reach of children.		8	Discard in the presence of particulate matter.
	3	Do not use if product changes color.		9	Discard the container after use.
	4	Keep refrigerated. Do not freeze.		10	**Tobramycin is prone to cause ototoxicity and nephrotoxicity. It should be under close clinical observation.**
	5	**Tobramycin can cause fetal harm to pregnant women. It should also be used with caution in premature and neonatal infant.**		11	Tobramycin sulfate may be administered by IM injection or intermittent intravenous infusion. When given by intravenous infusion, the dose should be added to 50 to 100 mL of infusion solution and administered over 20 to 60 minutes.
	6	May impair mental and/or physical ability. Use care when operating a car or machinery.			
Pharmacist Instructions	Add any auxiliary labels specific to the API to the dispensing container as deemed necessary.				
Patient Instructions	Contact your pharmacist in the event of adverse reactions.				

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REFERENCES

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