MEDISCA® NETWORK INC.
TECHNICAL SUPPORT SERVICES
FORMULATION CHEMISTRY DEPARTMENT
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Suggested Formula	Amitriptyline Hydrochloride 2%, Gabapentin 6%, Lidocaine Hydrochloride 0.5% Oral Mucoadhesive Rinse (Solution, 100 mL)	FIN	F 008 269

SUGGESTED FORMULATION

Ingredient Listing	Qty.	Unit	NDC #	Supplier	Lot Number	Expiry Date
Amitriptyline Hydrochloride, USP	2.000	g				
Gabapentin, USP	6.000	g				
Lidocaine Hydrochloride, USP	TBD					
Potassium Sorbate, NF	0.10	g				
Stevia Powder	0.10	g				
Menthol (Crystals) (Levorotatory) (Natural), USP	0.02	g				
Alcohol (95%), USP	5.0	mL				
NovaFilm™	30.0	mL				
Purified Water, USP	50.0	mL				
Purified Water, USP	q.s. to 100.0	mL				
Sodium Hydroxide 10% Solution	As required					

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SPECIAL PREPARATORY CONSIDERATIONS

Ingredient-Specific Information

Light Sensitive *(protect from light whenever possible):* *Amitriptyline Hydrochloride, Gabapentin*

Hygroscopic *(protect from moisture whenever possible):* *Stevia Powder*

Narrow Therapeutic Index *Lidocaine Hydrochloride*

Suggested Preparatory Guidelines

■ Non-Sterile Preparation ☐ Sterile Preparation

Processing Error / Testing Considerations: To account for processing error and pH testing considerations during preparation, it is suggested to measure an additional **3 to 5%** of the required quantities of ingredients.

Special Instruction: This formula may contain one or more Active Pharmaceutical Ingredients (APIs) that may be classified as hazardous, please refer & verify the current NIOSH list of Antineoplastic and Other Hazardous Drugs in Healthcare Settings, 2016. **General Chapter <800> Hazardous Drugs – Handling in Healthcare Settings** was formally published February 1, 2016 in the First Supplement to USP 39-NF 34 and has a delayed **official implementation date of December 31st, 2019**.

This formula must be prepared within the appropriate facilities under adequate environmental conditions, following the necessary guidelines and procedures as stated within *USP 795* and *USP 800*, when handling hazardous drugs. Only trained and qualified personnel must prepare this formula.

All required personal protective equipment (hazardous if applicable), such as but not limited to, lab coat, protective sleeves, gloves both inner and outer if applicable, dedicated shoe covers, hairnet, beard cover, eyewear, appropriate face mask, respirator and face shield, etc., where applicable must be worn at all times.

If applicable, follow all required procedures for hazardous drug handling including but not limited to procurement, transport, storage, preparation, dispensing, administration, clean up (spills) & disposal.

If you are a registered 503B facility, please refer to all relevant guidance documents including but not limited to the Code of Federal Regulations (CFR), Guidance for Industry (GFIs) and Compliance Policy Guides (CPGs).

Lidocaine Hydrochloride 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 100 mL)

Weigh and / or measure the following ingredients when appropriate:

Ingredient Listing	Qty.	Unit	Multiplication factor (*): ____	Processing Error	Qty. to measure
Amitriptyline Hydrochloride, USP §	2.000	g			
Gabapentin, USP §	6.000	g			
Lidocaine Hydrochloride, USP	TBD				
Potassium Sorbate, NF §	0.10	g			
Stevia Powder §	0.10	g			
Menthol (Crystals) (Levorotatory) (Natural), USP	0.02	g			
Alcohol (95%), USP	5.0	mL			
NovaFilm™	30.0	mL			
Purified Water, USP	50.0	mL			
Purified Water, USP	q.s. to 100.0	mL			
Sodium Hydroxide 10% Solution	As required				

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

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Preparatory Instruction

1. **Ingredient quantification:**

A. Determine the potency of Lidocaine Hydrochloride based on the certificate of analysis:

	100%
MINUS	
Water Content (from certificate of analysis)	_____ %
DIVIDED BY	100
EQUALS	
Quantity of water free Lidocaine Hydrochloride, in decimal	_____
MULTIPLIED BY	
Assay on anhydrous basis result (from certificate of analysis)	_____ %
DIVIDED BY	100
EQUALS	
i. Potency of Lidocaine Hydrochloride, in decimal	_____

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2. **Ingredient quantification:**

A. Determine the quantity (in g) of Lidocaine Hydrochloride to make a 100 mL batch of Lidocaine Hydrochloride 0.5% Oral Rinse:

Quantity of Lidocaine Hydrochloride required for 100 mL	0.500 g
DIVIDED BY	
Potency of Lidocaine Hydrochloride, in decimal (Step 1Ai)	_____
EQUALS	
i. Quantity of Lidocaine Hydrochloride needed for 100 mL	_____ **g**
MULTIPLIED BY	
Processing error adjustments (3 to 5%)	1.03 to 1.05
EQUALS	
ii. Quantity of Lidocaine Hydrochloride needed *plus* processing error adjustments	_____ **g**

3. **Menthol-solution preparation:**

A. Incrementally add the Menthol (Crystals) (Levorotatory) (Natural) to the Alcohol (95%).

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

End result: Homogeneous liquid-like solution.

4. **Powder-liquid preparation:**

A. Combine and triturate the following ingredients together to form a fine, homogeneous powder blend:

-Amitriptyline Hydrochloride
-Gabapentin
-Lidocaine Hydrochloride (amount determined in Step 2Aii)
-Potassium Sorbate
-Stevia Powder

B. Levigate the fine, homogeneous powder blend (Step 4A) with the homogeneous liquid-like solution (Step 3A).

End result: Homogeneous liquid-like dispersion.

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5. **Powder-liquid to medium incorporation:**

A. In the given order, sequentially add the following ingredients to the Purified Water (50.0 mL *plus* processing error adjustments):

-Homogenous liquid-like dispersion (Step 4B)
-NovaFilm™

Specifications: Continuously mix until all the particles have been dissolved.

End result: Homogeneous liquid-like solution.

6. **pH testing:**

A. Draw an appropriate amount of the mixture (Step 5A).

B. Test the pH of the sample. It should lie between 6.0 and 7.0.

C. If the pH < 6.0, 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 6.0 to 7.0 is obtained.

IMPORTANT: Do not allow the pH to rise above 7.0.

7. **Filling to volume:**

A. Add additional Purified Water to the above mixture to fill to the required batch size (100.0 mL *plus* processing error adjustments).

Specifications: Continuously mix.

End result: Homogeneous liquid-like solution.

8. **Product transfer**

Transfer the final product into the specified dispensing container (see “Packaging requirements”).

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SUGGESTED PRESENTATION

Estimated Beyond-Use Date		14 days, refrigerated, as per USP.	Packaging Requirements		- Tightly closed, light-resistant mouth rinse bottle. - To be administered with a metered dosing device.
Auxiliary Labels	1	Use as directed. Do not exceed prescribed dose.	6		Do not take with alcohol, sleep aids, tranquilizers or other CNS depressants.
	2	Keep out of reach of children.	7		Cap tightly after use.
	3	Consult your health care practitioner if any other prescription or over-the-counter medications are currently being used or are prescribed for future use.	8		For local (oral) use only.
	4	Protect from light.	9		**To be used as a mouth rinse; not to be swallowed.**
	5	Keep refrigerated (2°C – 8°C). Do not freeze.	10		May impair mental and/or physical ability. Use care when operating a car or machinery.

Pharmacist Instructions

IMPORTANT: **- Non-sterile preparation, do not use in the presence of an open wound.**
- Use of this formula is intended for local treatment and not for systemic treatment.

Add any auxiliary labels specific to the API to the dispensing container as deemed necessary.

IMPORTANT: - Small batch is prepared due to inherent potential of systemic toxicity.

- Limits as to the total amount of product used should be established by a physician.

- You should not apply this product to open wounds, areas of skin that are damaged or blistered, deep wounds, or large areas.

- Continued application of this product might produce systemic side effects. Advise patient accordingly.

IMPORTANT: DRUG-DRUG INTERACTION EXISTS BETWEEN AMITRIPTYLINE HYDROCHLORIDE AND GABAPENTIN. TO BE DISPENSED AND ADMINISTERED ONLY UNDER THE CLOSE SUPERVISION OF THE PRESCRIBING PHYSICIAN.

Patient Instructions

Contact your pharmacist in the event of adverse reactions.

IMPORTANT: - The quantity of API administered is directly dependent on the quantity of product applied.

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