

7/12/2015; Page 1

| | Tramadol Hydrochloride 10 mg Oral Chewable Treats (Solid Suspension, 30 x 1 mL Treats) | FIN | F 004 737v8 |
|--|---|-----|-------------|
|--|---|-----|-------------|

SUGGESTED FORMULATION

| Ingredient Listing | Qty. | Unit | NDC # | Supplier | Lot Number | Expiry Date |
|--------------------------------------|-------|------|-------|----------|---------------|----------------|
| Tramadol Hydrochloride, EP | 0.300 | g | | | | |
| Stevia Powder | 0.15 | g | | | | |
| Glycerin, USP** | 3.0 | mL | | | | |
| Beef Flavor (Powder) | 2.00 | g | | | | |
| Chew-A-Treat [™] Compound A | 11.49 | g | | | | |
| Chew-A-Treat [™] Compound B | 22.98 | g | 8 | | | |

**Note: Caprylic/Capric Triglyceride can be used to replace Glycerin to reduce stickiness.

SPECIAL PREPARATORY CONSIDERATIONS

| Ingredient-Specific Information | | |
|--|--|---|
| Light sensitive (protect from lig | ght whenever possible): | Tramadol Hydrochloride |
| Hygroscopic (protect from moi | sture whenever possible): | Glycerin, Stevia Powder |
| Controlled substance (adhere t documentation procedures) | to proper handling and | Tramadol Hydrochloride |
| Suggested Preparatory Guidelines | | |
| Non-Sterile Preparat | ion Sterile Preparation | |
| <u>Processing Error /</u> <u>Testing Considerations</u> : | 1 0 | considerations during preparation, it is suggested to of the required quantities of ingredients. |
| Special Instruction: | Protective apparel, such as a lab c should always be worn. | oat, disposable gloves, eyewear and face-masks |
| | | f very small quantities of ingredients. All calculations be verified before dispensing the final product. |



7/12/2015; Page 2

| Suggested Formula (Solid Suspension | hloride 10 mg Oral Chewable Treats , 30 x 1 mL Treats) | FIN | F 004 737v8 | |
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|--|---|-----|-------------|--|

SUGGESTED PREPARATION (for 30 x 1 mL Treats)

Weigh and / or measure the following ingredients when appropriate:

| Ingredient Listing | Qty. | Unit | Multiplication factor ^(*) : | Processing Error | Qty. to measure |
|--------------------------------------|-------|------|--|---------------------|-----------------|
| Tramadol Hydrochloride, EP § | 0.300 | g | | | |
| Stevia Powder § | 0.15 | g | | | |
| Glycerin, USP § | 3.0 | mL | | | |
| Beef Flavor (Powder) | 2.00 | g | | | |
| Chew-A-Treat [™] Compound A | 11.49 | g | | | |
| Chew-A-Treat [™] Compound B | 22.98 | g | | | |

* Takes into account increased batch size conversions and density conversions, if required.

§ Weigh / measure just prior to use.

Preparatory Instruction

1. Mold lubrication:

A. Lubricate all parts of the Chew-A-TreatTM Mold with suitable vegetable spray and set aside.

<u>Note</u>: Selected vegetable spray needs to be compatible with API(s) and all other ingredients within the formulation.

2. **Powder preparation:**

- A. Triturate the Chew-A-Treat[™] Compound B to form a fine, homogeneous powder blend.
- B. Triturate the Tramadol Hydrochloride to form a fine, homogeneous powder.

C. By geometric addition, combine and mix the following ingredients together to form a homogeneous mixture:

-Fine, homogeneous powder (Step 2B)
-Stevia Powder
-Beef Flavor (Powder)
-Fine, homogeneous powder blend (Step 2A)

D. Transfer the mixture (Step 2C) to a beaker and incrementally add the Glycerin.

Specifications: Continuously mix until homogeneous.

End result: Homogeneous moist blend.

<u>Note</u>: The mixture will have a sand-like texture. If it begins to stick to your stirring device or beaker, you can simply scrape it off and continue mixing.



7/12/2015; Page 3

| - | gested | Tramadol Hydrochloride 10 mg Oral Chewable Treats (Solid Suspension, 30 x 1 mL Treats) | FIN | F 004 737v8 | |
|----|---|---|--------|----------------------|--|
| 3. | 3. <u>Medium integration:</u> | | | | |
| | A. F | Prepare a hot water bath to between 60°C and 65°C. | | | |
| | B. U | Jsing the hot water bath, melt the Chew-A-Treat TM Compound A. | | | |
| | <u>S</u> | Specifications: Continuously mix. Maintain temperature between 60°C and 65°C. | | | |
| | E | End result: Homogeneous thick, sticky liquid-like dispersion. | | | |
| | | ncrementally add the homogeneous moist blend (Step 2D) to the melted Chew-A-Treat Th Step 3B). | M Com | pound A | |
| | <u>S</u> | Specifications: Continuously mix until homogeneous. Maintain temperature between 60°C and 65°C. | | | |
| | Ē | End result: Homogeneous thick, sticky paste-like dispersion. | | | |
| 4. | Mold filling: | | | | |
| | A. Properly lubricate gloves (thumbs, forefingers, and palms) throughout filling. | | | | |
| | B. Continuing to heat the mixture between 60 to 65°C, remove a marble-sized quantity of the mixture at a time and roll it between your thumb and forefinger to form a cylinder. Pack the 30 mold cavities with these cylinders and scrape off any excess with pre-lubricated plastic scraper. | | | | |
| | C. (| Once the treats have been packed down with an extractor, apply a thin layer of lubricant t | o give | a shiny surface. | |
| | D. Allow the treats to cool at room temperature for at least 15 minutes and then remove them from the mold using the extractor. | | | | |
| 5. | Valio | lation technique: | | | |
| | A. V | Veigh 6 chewable treats. | | | |
| | | The final weight of each chewable treat shall not be less than 90% and not more than alculated weight 1.36 g in accordance to USP guidelines. | 110% | of the theoretically | |
| 6. | Prod | uct transfer: | | | |
| | Transfer the final product into the specified dispensing container (see "Packaging Requirements"). | | | | |



7/12/2015; Page 4

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SUGGESTED PRESENTATION

| OGGESTED PRI | | | | |
|------------------------------|------|--|--|--|
| Estimated Beyond-Use Date | | Stability studies through Require Medisca*. *Suggested BUD is based on the exact procedures listed within this formulation. Note: This data is provided for information product stability with various active construed, as a representation or guadvised to consult recognized ph product formulation and other product formulation and other product formulation and other product formulation and other product makes no warranties or representation | execut onal pur pharma varantee armace uct cha ions wi | Manually put into light-resistant Chew-A-Treat blisters and cold seal with foil labels. ion of the indicated ingredient list, quantities and poses only, representing the results of a study of the aceutical ingredients. It does not serve, and may not be of product performance. In all cases the practitioner is utical compendia and other recognized sources for tracteristics, including stability. MEDISCA Network Inc. th regard to the functioning or appropriateness of this which use is solely at the discretion and liability of the |
| | 1 | Use as directed. Do not exceed prescribed dose. | 7 | Do not take with alcohol, sleep aids, tranquilizers or other CNS depressants. |
| Auxiliary | 2 | Keep out of reach of children. | 8 | Consult your health care practitioner if any prescription or over-the-counter medications are currently being used or are prescribed for future use. |
| Labels | 3 | Controlled substance. Dangerous unless used as directed. | 9 | Keep at room temperature $(20^{\circ}C - 23^{\circ}C)$. |
| | 4 | For Canine use only. | 10 | Keep in a dry place. |
| | 5 | Protect from light. | 11 | May produce psychological and/or physical dependence. |
| | 6 | May impair mental and/or physical ability. | | |
| Pharmacist Instructions | Ad | d any auxiliary labels specific to the API to the | ne dispe | ensing container as deemed necessary. |
| Patient Instructions | If a | allergic reactions occur, consult your pharmac | ist. | |



7/12/2015; Page 5

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REFERENCES

| 1. | Lozenges/Troches. In: Allen, LV, Jr. <i>The Art, Science and Technology of Pharmaceutical Compounding Third Edition.</i> American Pharmaceutical Association; 2008: 153. |
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| 2. | Ultram. In: Canadian Pharmacists Association. Compendium of Pharmacists and Specialties, 2011. 2654. |
| 3. | Gelatin. In: Rowe RC. <i>Handbook of Pharmaceutical Excipients</i> , 6 th Edition. American Pharmaceutical Association; 2009: 278. |
| 4. | Glycerin. In: Rowe RC. <i>Handbook of Pharmaceutical Excipients, 6th Edition</i> . American Pharmaceutical Association; 2009: 283. |
| 5. | Tramadol Hydrochloride. In: Sweetman SC, ed. <i>Martindale: The Complete Drug Reference, 34th Edition</i> . London, England: The Pharmaceutical Press; 2005: 130. |
| 6. | Tramadol (Monograph). In: O'Neil MJ. <i>The Merck Index 14th Edition</i> . Whitehouse Station, NJ: Merck & Co, Inc.; 2006: Monograph #9566. |
| 7. | Tramadol Hydrochloride. In: Trissel LA. <i>Handbook on Injectable Drugs, 15th Edition</i> . American Society of Health-System Pharmacists; 2009: 559. |
| 8. | Tramadol Systemic. Thomson Micromedex. USP DI – Drug Information for the Health Care Professional, 26 th Edition. Taunton, MA: US Pharmacopeial Convention, Inc; 2006: 2871. |
| 9. | USP <795>. United States Pharmacopeia XXXI / National Formulary 26. Rockville, MD. US Pharmacopeial Convention, Inc. 2009: 314. |

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