U.S. FOOD & DRUG ADMINISTRATION

Drug Product Nomenclature

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Pharmaceutical Quality

A quality product of any kind consistently meets the expectations of the user.

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A quality product of any kind consistently meets the expectations of the user.

Drugs are no different.


FDA
Patients expect safe and effective medicine with every dose they take.

Pharmaceutical quality is

assuring *every* dose is safe and effective, free of contamination and defects.


It is what gives patients confidence in their *next* dose of medicine.

Disclaimer

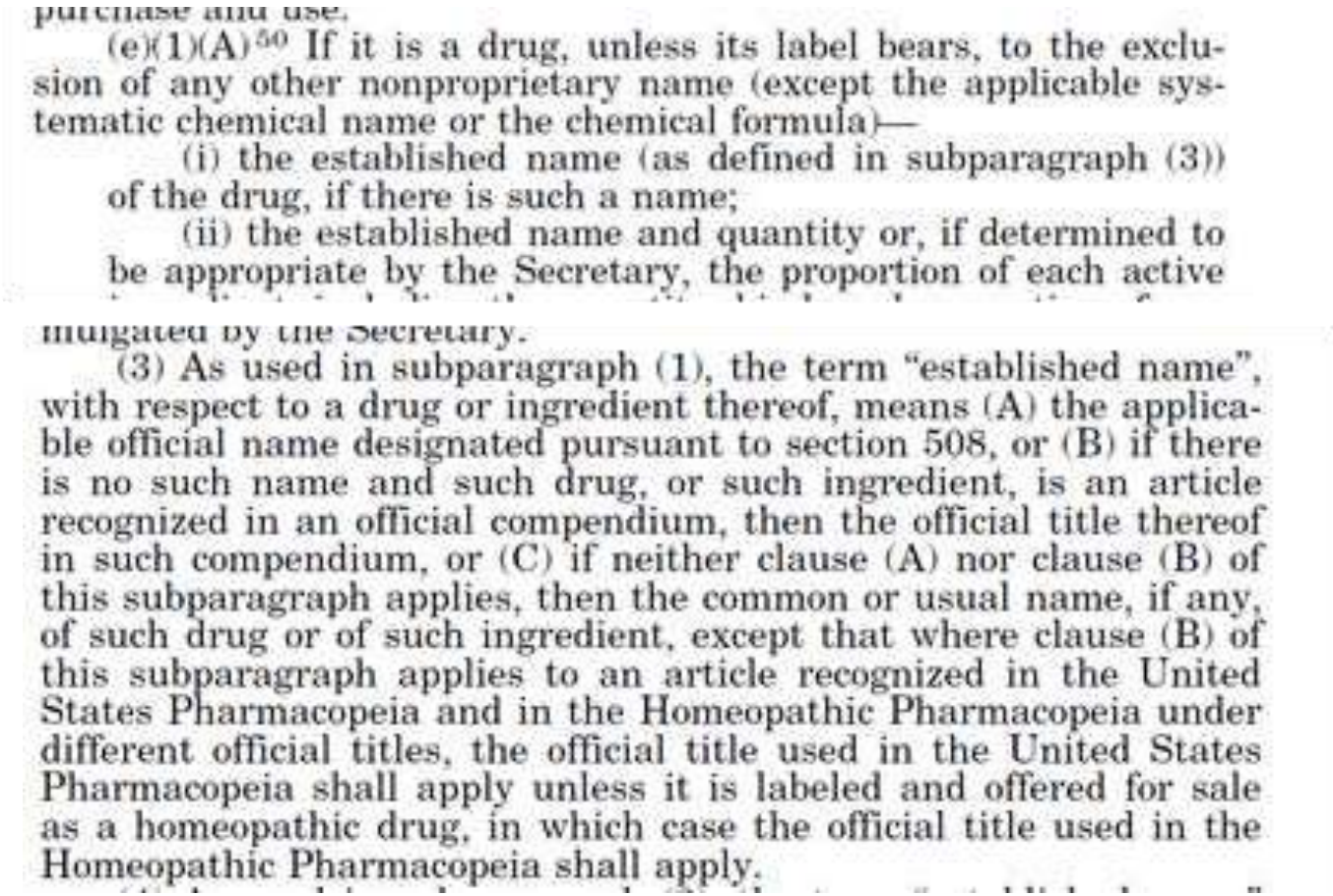
- The views and opinions expressed in this presentation represent those of the presenter, and do not necessarily represent an official FDA position.
- The labeling examples in this presentation are provided only to demonstrate current labeling development challenges and should not be considered FDA recommended templates.
- Reference to any marketed products is for illustrative purposes only and does not constitute endorsement by the FDA.

Learning Objectives

- Review why drug product nomenclature is important
- Review the 3 components of the drug product established name
- Review references to assist in developing drug product nomenclature

Drug Product Nomenclature

- FDCA Sec 502(e) requires the Established Name



purchase and use.

(e)(1)(A)[50] If it is a drug, unless its label bears, to the exclusion of any other nonproprietary name (except the applicable systematic chemical name or the chemical formula)—

(i) the established name (as defined in subparagraph (3)) of the drug, if there is such a name;

(ii) the established name and quantity or, if determined to be appropriate by the Secretary, the proportion of each active

mulgated by the Secretary.

(3) As used in subparagraph (1), the term "established name", with respect to a drug or ingredient thereof, means (A) the applicable official name designated pursuant to section 508, or (B) if there is no such name and such drug, or such ingredient, is an article recognized in an official compendium, then the official title thereof in such compendium, or (C) if neither clause (A) nor clause (B) of this subparagraph applies, then the common or usual name, if any, of such drug or of such ingredient, except that where clause (B) of this subparagraph applies to an article recognized in the United States Pharmacopeia and in the Homeopathic Pharmacopeia under different official titles, the official title used in the United States Pharmacopeia shall apply unless it is labeled and offered for sale as a homeopathic drug, in which case the official title used in the Homeopathic Pharmacopeia shall apply.

Drug Product Nomenclature

- Food, Drug, and Cosmetic Act section 502(e)
  - Ingredients and drug products have established names
  - Established name and quantity of the active ingredient(s) are required labeling
  - Article recognized in an official compendium, then use the compendial title
  - Official compendium is the United States Pharmacopeia (USP)

If no USP official title…

FDA creates an established name based upon:

- Salt Policy
- USP Nomenclature Guidelines
- USP <1151> Pharmaceutical Dosage Forms
- Draft Guidance: *Product Title and Initial U.S. Approval in the Highlights of Prescribing Information for Human Prescription Drug and Biological Products — Content and Format* (January 2018)*

*When final, this guidance will represent the FDA's current thinking.

What is the Established Name(s)

- **Drug Substance**
  - USAN (United States Adopted Name), USP (United States Pharmacopeia), Common or Usual Name
- **Drug Product**
  - USP

  [Drug] [Route of Administration] [Dosage Form]

Why is the Established Name Important?

- The drug product name (esp. the dosage form) affects:
  - Exclusivity determinations
  - Generic products (different technology, same dosage form)
    - Osmotic systems, Matrix, → Extended-Release Tablets
    - Thread, Chip, Powder → Periodontal System
  - User fees
  - Prescribing
    - Tablets vs. Orally Disintegrating Tablets (waterless)

Why is the Established Name Important?

Suboptimal Dosage Form Term	Concern	Optimal Dosage Form Term
Vaginal Jelly	Jelly applied to toast	Vaginal Gel
Vaginal Capsules/Tablets	Capsules/Tablets swallowed	Vaginal Inserts
Inhalation Capsules	Capsules swallowed	Inhalation Powder
Gummies	Name too similar to candy	Chewable Gels

Why is the Established Name Important?

- Con't.
  - A product can be approved without a proprietary (brand name) but it can't be approved without a nonproprietary name.
  - The name needs to be useful for practitioners.

Thoughtful nomenclature decisions are essential!

Established Name(s) Components

- **Drug Substance**
  - USAN (United States Adopted Name), USP (United States Pharmacopeia), Common or Usual Name
- **Drug Product**
  - USP

[Drug] [Route of Administration] [Dosage Form]

[Drug] [Route of Administration] [Dosage Form]

[Drug]

If the Active Ingredient is a:

- "Non-salt" (e.g. ester, chelate, complex) – use the entire drug substance name
- Salt
  - generally, use the name of **active moiety**
  - sometimes, include the salt in the name
    - General concept is to include the salt when it is important to know what salt is present for therapeutic reasons
    - Lots of Na^+ or K^+ (e.g. Penicillin G Sodium)
    - Affect on therapeutic performance is known

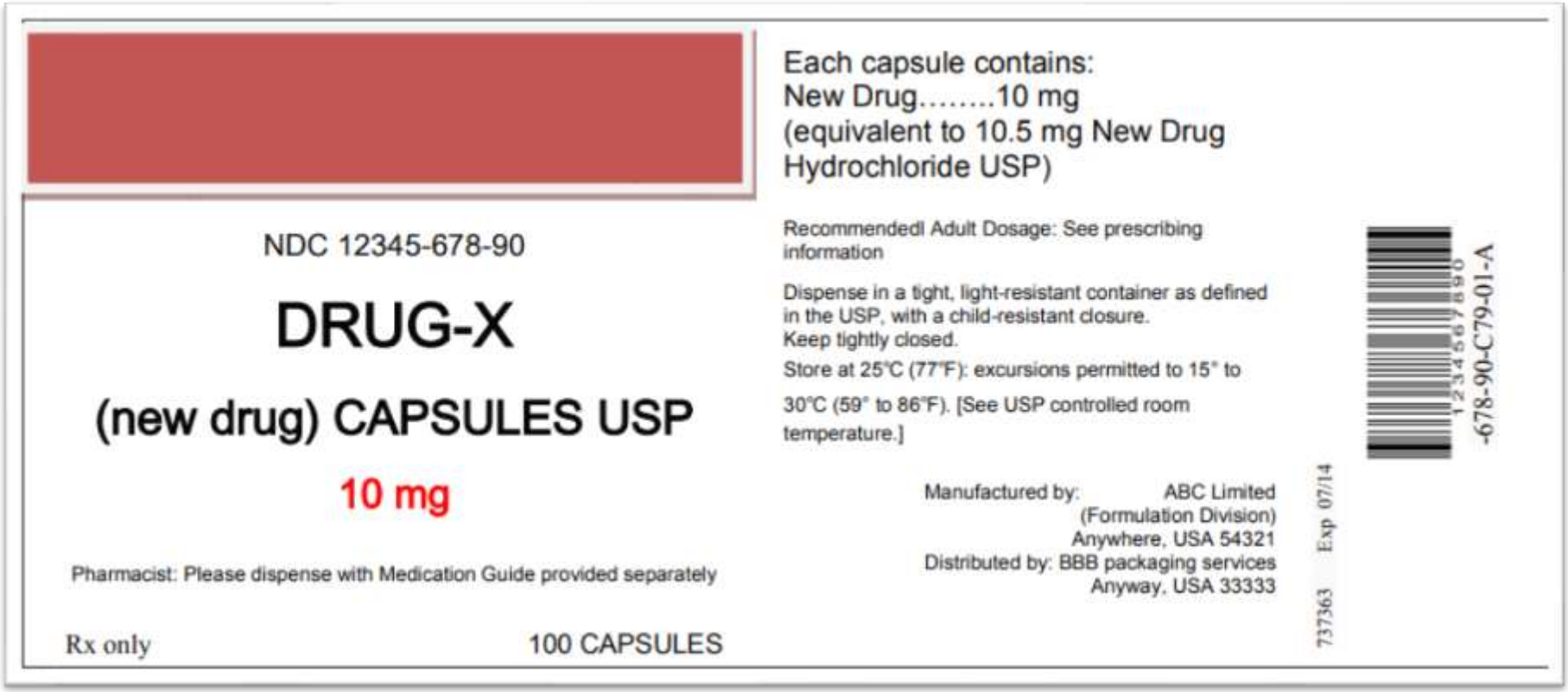
If [Drug] is a Salt

- USP Salt Policy
  - **The Monograph Naming Policy for Salt Drug Substances in Drug Products and Compounded Preparations** is published in USP General Chapter <1121> Nomenclature.
- Guidance: *Naming of Drug Products Containing Salt Drug Substances* (June 2015)
- MAPP 5021.1 Rev.1: *Naming of Drug Products Containing Salt Drug Substances* (December 2017)

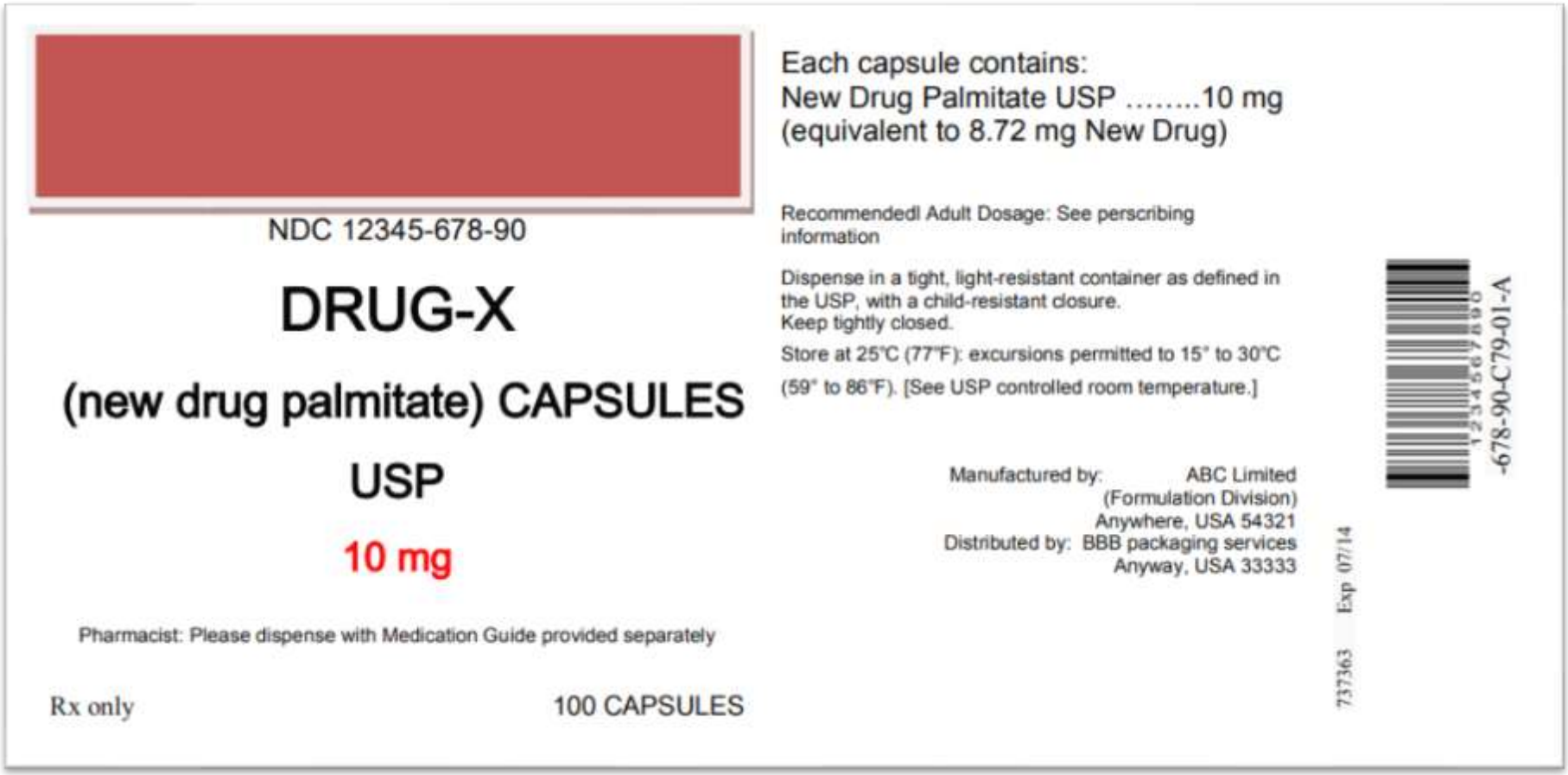
Exceptions to USP Salt Policy

- *Clinically* important to include salt in the name
- *Historically* necessary to maintain consistency with other dosage forms of the same active ingredient (salt).
- *Safety* concerns (e.g. medication errors) due to name
- **Guidance: *Naming of Drug Products Containing Salt Drug Substances* (June 2015)**

Name and Strength based on Active Moiety



Name and Strength based on Active Ingredient (salt)



Equivalency Statement

- Dosage Forms and Strength section

The DOSAGE FORMS AND STRENGTHS section[17] clearly states the product contents in a manner that allows the reader to understand whether the strength is based on the active moiety or active ingredient (salt).

Example #1 (when the USP Salt Policy applies):

Tablets: 10 mg of drug-x

Example #2 (when an exception to the USP Salt Policy has been granted:

Tablets: 10.5 mg of drug-x hydrochloride

- Description section

The DESCRIPTION section[18] for drug products containing an active ingredient that is a salt clearly identifies the active ingredient (salt), the active moiety, and the strengths of each, which can be accomplished with the use of an equivalency statement. For example:

DRUG-X contains 100 mg of drug-x equivalent to 123.7 mg of drug-x hydrochloride

[Drug] **[Route of Administration]** [Dosage Form]

[Route of Administration]

1. Route of administration (ROA) is generally included
   - Oral Solution vs. Topical Solution
   - Ophthalmic Insert vs. Vaginal Insert
   - Oral Powder vs. Nasal Powder
   - Topical Foam vs. Injectable Foam

2. See Draft Guidance: *Product Title and Initial U.S. Approval in the Highlights of Prescribing Information for Human Prescription Drug and Biological Products — Content and Format* (January 2018)*

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[Route of Administration]

1. ROA is not included in the established name:
   - Route is understood
     - "Oral" not included for capsules, tablets, lozenge
     - "Topical" not included for creams, ointments, lotions
   - Injectable products
     - SQ, IM, IV is not included in the established name (e.g. *Injection* and *for Injection*) but is a required labeling statement
   - Suppository: defined for rectal use
2. See USP Nomenclature Guidelines

[Drug] [Route of Administration] **[Dosage Form]**

[Dosage Form]

- Use USP recognized Dosage Form terms
  - USP <1151> Pharmaceutical Dosage Forms
  - USP Nomenclature Guidelines

- Avoid using:
  - FDA Data Standards Manual
  - Orange Book

Tablets

- [Drug] Tablets
  - If swallowed whole or the tablet **MAY** be chewed.

- [Drug] Chewable Tablets
  - If it **MUST** be chewed/crushed and no other alternative route of administration
  - Guidance: *Quality Attribute Considerations for Chewable Tablets* (August 2018)

- [Drug] Tablets for Oral Suspension or [Drug] Tablets for Oral Solution
  - If the tablet is to be dispersed in a liquid before administration… used even if the tablet may also be chewed or swallowed whole.
  - "Tablets may be swallowed whole, chewed, or dispersed in water or fruit juice."

Other Solid Oral Dosage Forms

- Specific Location
  - Sublingual Tablets, Buccal Tablets
- Very rapid disintegration
  - Orally-Disintegrating Tablets
    - Guidance: *Orally Disintegrating Tablets* (December 2008)
- Slow disintegration or dissolve
  - Lozenge

Powders, Granules, Pellets

- Intended to be administered directly
  - Topical Powder, Inhalation Powder, Nasal Powder
  - Oral Powder, Oral Granules, Oral Pellets
- Intended to be added to liquid and ingested
  - for Oral Suspension, for Oral Solution
- Intended for reconstitution/constitution
  - for Injection, for Injectable Suspension, etc.

Capsules

- Generally, for oral administration via swallowing
- Avoid using for products that are not intended to be swallowed
  - Oral Powders, Granules, Pellets should be packaged in a “packet”
  - Guidance: *Safety Considerations for Product Design to Minimize Medication Errors* (April 2016)

Injectables

- [DRUG] Injection
- [DRUG] for Injection
- [DRUG] Injectable Emulsion
- [DRUG] Injectable Suspension
- [DRUG] for Injectable Suspension
- [DRUG] Extended-Release Injectable Suspension
- [DRUG] for Extended-Release Injectable Suspension
- *[DRUG] Extended-Release Injection
- *[DRUG] Injectable Foam

*Dosage forms in FDA approved drug products. FDA working with USP to add to <1151> and Nomenclature Guidelines.

Systems

- Transdermal Systems & Topical Systems
  - The dosage form formerly known as Patches
  - Draft Guidance: *Transdermal and Topical Delivery Systems - Product Development and Quality Considerations* (November 2019)*
- Other systems too!
  - Intrauterine Systems
  - Periodontal Systems
  - Ocular Systems

*When final, this guidance will represent the FDA's current thinking.

Modified Release Terminology in Established Names

In cases of drug products exhibiting more than one release characteristic the following nomenclature practices are applicable:

- The term Immediate-Release is never used in drug product nomenclature
- Combination of Immediate-Release and Extended-Release is referred to as Extended-Release
- Combination of immediate-release and delayed-release with at least one ingredient exhibiting both release characteristics is referred to as Extended-release
- Combination of immediate-release and delayed-release where no ingredient exhibits both release characteristics is referred to as Delayed-release
- Combination of Extended-Release and Delayed-Release is referred to as Extended-Release

Adapted from USP Nomenclature Guidelines (last revision on: February 01, 2018). Retrieved November 25, 2019 from https://www.usp.org/health-quality-safety/compendial-nomenclature

Examples of Modified Release Terminology in Established Names

- Drugozide Extended-Release Tablets
- Drugozide Delayed-Release Capsules
- Drugozide for Extended-Release Injectable Suspension

Established Name and Labeling Statements

- The name is NOT expected to convey all the information a practitioner is expected to know.
- Labeling Statements are used to highlight important information
  - Extended-Release
    - multiple extended release products (1 month, 3-month, 6-month formulations)
  - Concentrate
    - USP removed this from names. Replace with “Must be diluted”.
    - Exception: Potassium Chloride for Injection Concentrate.

Useful Nomenclature References

- USP Nomenclature Guidelines
- USP <1121> Nomenclature
- USP <1151> Pharmaceutical Dosage Forms
- Guidance: *Naming of Drug Products Containing Salt Drug Substances* (June 2015)
- Draft Guidance: *Product Title and Initial U.S. Approval in the Highlights of Prescribing Information for Human Prescription Drug and Biological Products — Content and Format* (January 2018)

Question: 1

The established name for a tablet that **must** be chewed is

a) Drugozide Tablets
b) Drugozide Oral Chewable Tablets
c) Drugozide Chewable Tablets
d) Drugozide Sublingual Tablets

Question: 2

The established name for this product should be?

- Active ingredient, Drugozide HCl
- First product containing Drugozide HCl
- Salt is clinically insignificant
- Powder must be reconstituted, goes into solution before oral ingestion

a) Drugozide Oral Powder
b) Drugozide Hydrochloride for Oral Solution
c) Drugozide Hydrochloride for Oral Suspension
d) Drugozide for Oral Solution

Summary

- Food, Drug, and Cosmetic Act requires use of official title from USP
- 3 Components of drug product established name
  - [Drug] [Route of Administration] [Dosage Form]
- USP Nomenclature Guidelines,
  USP<1121>, USP <1151>,
  Guidance: *Naming of Drug Products Containing Salt Drug Substances* (June 2015)