CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

212269Orig1s000

PROPRIETARY NAME REVIEW(S)

PROPRIETARY NAME MEMORANDUM

Division of Medication Error Prevention and Analysis (DMEPA)

Office of Medication Error Prevention and Risk Management (OMEPRM)

Office of Surveillance and Epidemiology (OSE)

Center for Drug Evaluation and Research (CDER)

***** This document contains proprietary information that cannot be released to the public*****

Date of This Review:	May 15, 2020
Application Type and Number:	NDA 212269
Product Name and Strength:	Ferriprox (deferiprone) tablets, 1,000 mg
Product Type:	Single Ingredient Product
Rx or OTC:	Prescription (Rx)
Applicant/Sponsor Name:	ApoPharma Inc. (ApoPharma)
Panorama #:	2020-39890272
DMEPA Safety Evaluator:	Stephanie DeGraw, PharmD
DMEPA Team Leader:	Hina Mehta, PharmD
DMEPA Associate Director of Nomenclature and Labeling:	Mishale Mistry, PharmD, MPH

1 INTRODUCTION

This memorandum evaluates the proposed proprietary name, Ferriprox, from a safety perspective. ApoPharma submitted the name, Ferriprox, under NDA 212269 for review on May 13, 2020 for a proposed 1,000 mg tablet formulation of deferiprone for twice daily administration.

1.1 REGULATORY HISTORY

Ferriprox (deferiprone) 500 mg tablet was approved on October 14, 2011 under NDA 021825 for the treatment of patients with transfusional iron overload due to thalassemia syndromes when current chelation therapy is inadequate. Subsequently, Ferriprox 1,000 mg tablet was approved on July 25, 2019 under NDA 021825/S-004. In addition, Ferriprox oral solution 100 mg/mL was approved on September 9, 2015 under NDA 208030, followed by an 80 mg/mL strength approved on April 20, 2018. All the currently available deferiprone tablets and oral solution are administered three times daily.

On July 19, 2019, ApoPharma submitted NDA 212269 which proposed a 1,000 mg (b) (4) formulation which is intended for twice daily administration. ApoPharma submitted the proposed proprietary name (b) (4) which was found conditionally acceptable October 11, 2019.[a]

However, on May 1, 2020, the Agency sent a communication to ApoPharma which stated, (b) (4) Therefore, per Clinical Pharmacology, the twice-daily frequency of administration is appropriate for the proposed formulation (b) (4)

As a result, on May 8, 2020, ApoPharma withdrew the proprietary nam (b) (4) and a new proprietary name review application will be submitted to NDA 212269 in the post-approval stage".[c] However, after discussion with the Agency,[d] ApoPharma submitted the proposed proprietary name Ferriprox under NDA 212269 for Agency review.[e]

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[a] Mena-Grillasca, C. Proprietary Name Review (b) (4) (NDA 212269). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2019 OCT 11. Panorama No.: 2019-33248849.
[b] Kacuba, A. Email: FDA Communication for NDA 212269. 2020 MAY 1. Available at: https://darrts.fda.gov//darrts/faces/ViewDocument?documentId=090140af8055e351&_afrRedirect=782569860516300
[c] Connelly, J. Cover Letter: Proprietary Name Withdraw Request. 2020 MAY 8. Available at: \\cdsesub1\evsprod\nda212269\0014\m1\us\12-cover-letters\cover-letter-sn0014.pdf
[d] Kacuba, A. Email: FDA Communication for NDA 212269. 2020 MAY 8. Available at: https://darrts.fda.gov//darrts/faces/ViewDocument?documentId=090140af80562199&_afrRedirect=782763298919530
[e] Connelly, J. Cover Letter: Request for Proprietary Name Review. 2020 MAY 13. Available at: \\cdsesub1\evsprod\nda212269\0017\m1\us\12-cover-letters\cover-letter-sn0017.pdf

1.2 PRODUCT INFORMATION

The following product information is provided in the proprietary name submission received on May 13, 2020. Product information for currently approved Ferriprox (deferiprone) formulations was excerpted from Drugs@FDA[f] and DailyMed[g].

Table 1. Product Characteristics of the Proposed Ferriprox Formulation and Currently Approved Ferriprox Formulations		
	***Proposed:* Ferriprox [Twice A Day Formulation]**	**Ferriprox [Three Times A Day Formulations]**
Active Ingredient	deferiprone	deferiprone
Indication	Treatment of patients with transfusional iron overload due to thalassemia syndromes when current chelation therapy is inadequate.	Treatment of patients with transfusional iron overload due to thalassemia syndromes when current chelation therapy is inadequate.
Route of Administration	Oral	Oral
Strength	1,000 mg	Tablets: 1,000 mg and 500 mg Solution: 100 mg/mL and 80 mg/mL
Dose and Frequency	75 mg/kg to 99 mg/kg actual body weight per day divided into two doses (approximately 12 hours apart)	25 mg/kg to 33 mg/kg actual body weight three times per day for a total of 75 mg/kg/day to 99 mg/kg/day
Dosage Form	Tablet	Tablet Solution
How Supplied	50-count bottles 500-count bottles Cartons containing 5 x 10-count blister packs	1,000 mg tablets: 50-count bottles 500 mg tablets: 100-count bottles Oral solution: 500 mL bottles
Storage	Store at 20°C to 25°C (68°F to 77°F); excursions permitted to 15°C to 30°C (59°F to 86°F) [see USP Controlled Room Temperature]	Store at 20°C to 25°C (68°F to 77°F); excursions permitted to 15°C to 30°C (59°F to 86°F) [see USP Controlled Room Temperature]

[f] Drugs@FDA. Ferriprox. Available at: https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&ApplNo=021825 and https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&ApplNo=208030

[g] DailyMed. Ferriprox. Available at: https://dailymed.nlm.nih.gov/dailymed/search.cfm?labeltype=all&query=ferriprox&pagesize=20&page=1

2 SAFETY ASSESSMENT: METHODS AND DISCUSSION

2.1 UNITED STATES ADOPTED NAMES (USAN) SEARCH

There is no USAN stem present in the proposed proprietary name[h].

2.2 COMPONENTS OF THE PROPOSED PROPRIETARY NAME

ApoPharma indicated in their submission that the proposed proprietary name, Ferriprox, is an iron chelator and the syllable 'ferri' was chosen to denote that deferiprone, the active ingredient, binds with ferric ions. This proprietary name is comprised of a single word that does not contain any components (i.e. a modifier, route of administration, dosage form, etc.) that are misleading or can contribute to medication error.

2.3 MEDICATION ERROR DATA SELECTION OF CASES

We searched the FDA Adverse Event Reporting System (FAERS) database using the strategy listed in Table 2 (see Appendix A for a description of FAERS database) for name confusion errors involving the currently marketed Ferriprox products that would be relevant for this review.

Table 2. FAERS Search Strategy	
Search Date	May 13, 2020
Drug Name	Ferriprox [product name]
Event (MedDRA Terms)	DMEPA Official PNR Name Confusion Search Terms Event List
Date Limits	No date limit

The search did not yield any reports.

2.4 ANALYSIS OF THE PROPOSED NAME FERRIPROX FOR A NEW FORMULATION

Ferriprox has been marketed as the proprietary name for deferiprone tablets since 2011. We noted that the proposed twice-daily 1,000 mg tablet formulation will have the same proprietary name, non-proprietary name, dosage form, and strength as the currently marketed three-times-daily 1,000 mg tablet formulation.

We performed a FAERS search on May 13, 2020 to identify cases of name confusion with the name Ferriprox (see Section 2.3). Our search did not identify medication errors that could be attributed to name confusion involving Ferriprox; therefore, we do not object to the use of the same name for this product from a look-alike/sound-alike name confusion perspective.

However, we note that the currently available immediate-release 1,000 mg tablet and the proposed new 1,000 mg tablet formulation of deferiprone may introduce medication error

[h] USAN stem search conducted on May 13, 2020.

concerns. Although both tablets are the same strength, the immediate-release tablets are administered three times a day while the new tablets are administered twice a day.

(b) (4)

(b) (4)

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implication." Therefore, it stands to reason that if either 1,000 mg tablet formulation is given two times or three times a day, there is minimal concern with regards to efficacy and safety.

Therefore, for the aforementioned reasons, DMEPA finds that the proprietary name 'Ferriprox', although not free from the risk of error, is acceptable at this time. Furthermore, we note that some residual risks of confusion between the formulations can by managed with labeling mitigation strategies that will be conveyed in our Label and Labeling Review Memo (RCM 2019-1539-2).

2.5 COMMUNICATION OF DMEPA'S ANALYSIS AT MIDPOINT OF REVIEW

We communicated our findings to the Division of Non-Malignant Hematology (DNH) via e-mail on May 14, 2020. At that time, we also requested additional information or concerns that could inform our review. Per e-mail correspondence from the Division of Non-Malignant Hematology (DNH) on May 14, 2020, they stated no additional concerns with the proposed proprietary name, Ferriprox.

3 CONCLUSION

Based on our safety evaluation, we determined that the proposed proprietary name, Ferriprox, is acceptable.

If you have any questions or need clarifications, please contact Linda Park, OSE project manager, at 240-402-5120

3.1 COMMENTS TO APOPHARMA INC.

We have completed our review of the proposed proprietary name, Ferriprox, and have concluded that this name is acceptable for NDA 212269.

4 REFERENCE

1. **USAN Stems (https://www.ama-assn.org/about/united-states-adopted-names-approved-stems)**

   USAN Stems List contains all the recognized USAN stems.

Appendix A: Description of FAERS

The FDA Adverse Event Reporting System (FAERS) is a database that contains information on adverse event and medication error reports submitted to FDA. The database is designed to support the FDA's postmarket safety surveillance program for drug and therapeutic biologic products. The informatic structure of the FAERS database adheres to the international safety reporting guidance issued by the International Conference on Harmonisation. FDA's Office of Surveillance and Epidemiology codes adverse events and medication errors to terms in the Medical Dictionary for Regulatory Activities (MedDRA) terminology. Product names are coded using the FAERS Product Dictionary. More information about FAERS can be found at: http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Surveillance/AdverseDrugEffects/default.htm.

This is a representation of an electronic record that was signed electronically. Following this are manifestations of any and all electronic signatures for this electronic record.

/s/

STEPHANIE L DEGRAW
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PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis (DMEPA)

Office of Medication Error Prevention and Risk Management (OMEPRM)

Office of Surveillance and Epidemiology (OSE)

Center for Drug Evaluation and Research (CDER)

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Date of This Review:	October 11, 2019
Application Type and Number:	NDA 212269
Product Name and Strength:	Ferriprox (b) (4) tablets, 1,000 mg
Product Type:	Single Ingredient Product
Rx or OTC:	Prescription (Rx)
Applicant/Sponsor Name:	ApoPharma Inc. (ApoPharma)
Panorama #:	2019-33248849
DMEPA Safety Evaluator:	Carlos M Mena-Grillasca, BS Pharmacy
DMEPA Team Leader:	Hina Mehta, PharmD
DMEPA Associate Director:	Mishale Mistry, PharmD, MPH

Contents

1 INTRODUCTION

This review evaluates the proposed proprietary name, [redacted] (b) (4) from a safety and misbranding perspective. The sources and methods used to evaluate the proposed proprietary name are outlined in the reference section and Appendix A respectively. ApoPharma did not submit an external name study for this proposed proprietary name.

1.1 REGULATORY HISTORY

Ferriprox (deferiprone) tablets 500 mg was approved on October 14, 2011 under NDA 021825 for the treatment of patients with transfusional iron overload due to thalassemia syndromes when current chelation therapy is inadequate. Subsequently, Ferriprox tablets 1,000 mg was approved on July 25, 2019 under NDA 021825/S-004, which replaced the 500 mg tablet.

In addition, Ferriprox oral solution 100 mg/mL was approved on September 9, 2015 under NDA 208030, followed by an 80 mg/mL strength approved on April 20, 2018.

On July 19, 2019, ApoPharma submitted NDA 212269 proposing deferiprone [redacted] (b) (4) tablets in a strength of 1,000 mg under the proposed proprietary name [redacted] (b) (4)

1.2 PRODUCT INFORMATION

The following product information is provided in the proprietary name submission received on July 19, 2019.

- Intended Pronunciation: feh' ri prox [redacted] (b) (4)
- Active Ingredient: deferiprone
- Indication of Use: Treatment of patients with transfusional iron overload due to thalassemia syndromes when current chelation therapy is inadequate.
- Route of Administration: Oral
- Proposed Dosage Form: [redacted] (b) (4) tablets

  Marketed Dosage Forms: film-coated tablets (immediate release) and oral solution
- Proposed Strength: 1,000 mg

  Marketed Strengths: 1,000 mg film-coated tablets (immediate release) and
  80 mg/mL and 100 mg/mL oral solution
- Dose and Frequency: 75 mg/kg to 99 mg/kg body weight, divided into two doses, taken with meals
- How Supplied:

  Blister packs of 50 tablets
  Bottles of 50 tablets and 500 tablets
- Storage: 20 °C to 25 °C (68 °F to 77 °F); excursions permitted to 15 °C to 30 °C (59 °F to 86 °F)
- Reference Listed Drug/Reference Product: N/A

2 RESULTS

The following sections provide information obtained and considered in the overall evaluation of the proposed proprietary name, [redacted] (b) (4)

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that [redacted] would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis (DMEPA) and the Division of Hematology Products (DHP) concurred with the findings of OPDP's assessment for [redacted]

2.2 SAFETY ASSESSMENT

The following aspects were considered in the safety evaluation of the proposed proprietary name, [redacted]

2.2.1 United States Adopted Names (USAN) Search

There is no USAN stem present in the proposed proprietary name[a].

2.2.2 Components of the Proposed Proprietary Name

ApoPharma indicated in their submission that the proposed proprietary name, [redacted], is an iron chelator and the syllable 'ferri' was chosen to denote that deferiprone, the active ingredient, binds with ferric ions. [redacted] This proprietary name is comprised of the root name Ferriprox [redacted] We further discuss our safety assessment of the root name [redacted] Section 2.2.6 Analysis of the Root Name [redacted]

2.2.3 Comments from Other Review Disciplines at Initial Review

In response to the OSE, August 26, 2019 e-mail, the Division of Hematology Products (DHP) did not forward any comments or concerns relating to [redacted] at the initial phase of the review.

2.2.4 FDA Name Simulation Studies

Seventy-two (n=72) practitioners participated in DMEPA's prescription studies for [redacted] Two participants in the voice study misinterpreted [redacted]. Six participants in the inpatient study [redacted] from the name. Appendix B contains the results from the verbal and written prescription studies.

2.2.5 Medication Error Data Selection of Cases

We searched the FDA Adverse Event Reporting System (FAERS) database using the strategy listed in Table 2 (see Appendix A1 for a description of FAERS database) for name confusion errors involving the currently marketed Ferriprox products that would be relevant for this review.

Table 2. FAERS Search Strategy	
Search Date	September 16, 2019
Drug Name	Ferriprox [product name]
Event (MedDRA Terms)	DMEPA Official PNR Name Confusion Search Terms Event List
Date Limits	No date limit

The search did not yield any reports.

[a] USAN stem search conducted on September 13, 2019.

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formulations can by managed with labeling mitigation strategies that will be conveyed on our Label and Labeling review.

2.2.7 Communication of DMEPA's Analysis at Midpoint of Review

DMEPA communicated our findings to the Division of Hematology Products (DHP) via e-mail on October 7, 2019. At that time we also requested additional information or concerns that could inform our review. Per e-mail correspondence from the Division of Hematology Products (DHP) on October 11, 2019, they stated no additional concerns with the proposed proprietary name, (b) (4)

3 CONCLUSION

The proposed proprietary name, (b) (4) is acceptable.

If you have any questions or need clarifications, please contact Linda Park, OSE project manager, at 240-402-5120.

3.1 COMMENTS TO APOPHARMA INC.

We have completed our review of the proposed proprietary name, (b) (4) and have concluded that this name is acceptable.

If any of the proposed product characteristics as stated in your submission, received on July 19, 2019, are altered prior to approval of the marketing application, the name must be resubmitted for review.

4 REFERENCES

1. *USAN Stems (https://www.ama-assn.org/about/united-states-adopted-names-approved-stems)*

   USAN Stems List contains all the recognized USAN stems.

APPENDICES

Appendix A

FDA's Proprietary Name Risk Assessment evaluates proposed proprietary names for misbranding and safety concerns.

1. **Misbranding Assessment**: For prescription drug products, OPDP assesses the name for misbranding concerns. For over-the-counter (OTC) drug products, the misbranding assessment of the proposed name is conducted by DNDP. OPDP or DNDP evaluates proposed proprietary names to determine if the name is false or misleading, such as by making misrepresentations with respect to safety or efficacy. For example, a fanciful proprietary name may misbrand a product by suggesting that it has some unique effectiveness or composition when it does not (21 CFR 201.10(c)(3)). OPDP or DNDP provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.

2. **Safety Assessment**: The safety assessment is conducted by DMEPA, and includes the following:

a. Preliminary Assessment: We consider inclusion of USAN stems or other characteristics that when incorporated into a proprietary name may cause or contribute to medication errors (i.e., dosing interval, dosage form/route of administration, medical or product name abbreviations, names that include or suggest the composition of the drug product, etc.) See prescreening checklist below in Table 2*. DMEPA defines a medication error as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. 6F[a]

***Table 2- Prescreening Checklist for Proposed Proprietary Name**

	Answer the questions in the checklist below. Affirmative answers to any of these questions indicate a potential area of concern that should be carefully evaluated as described in this guidance.
Y/N	Is the proposed name obviously similar in spelling and pronunciation to other names?
	Proprietary names should not be similar in spelling or pronunciation to proprietary names, established names, or ingredients of other products.
Y/N	Are there inert or inactive ingredients referenced in the proprietary name?
	Proprietary names should not incorporate any reference to an inert or inactive ingredient in a way that might create an impression that the ingredient's value is greater than its true functional role in the formulation (21 CFR 201.10(c)(4)).
Y/N	Does the proprietary name include combinations of active ingredients?
	Proprietary names of fixed combination drug products should not include or suggest the name of one or more, but not all, of its active ingredients (see 21 CFR 201.6(b)).
Y/N	Is there a United States Adopted Name (USAN) stem in the proprietary name?
	Proprietary names should not incorporate a USAN stem in the position that USAN designates for the stem.
Y/N	Is this proprietary name used for another product that does not share at least one common active ingredient?
	Drug products that do not contain at least one common active ingredient should not use the same (root) proprietary name.
Y/N	Is this a proprietary name of a discontinued product?
	Proprietary names should not use the proprietary name of a discontinued product if that discontinued drug product does not contain the same active ingredients.

b. Phonetic and Orthographic Computer Analysis (POCA): Following the preliminary screening of the proposed proprietary name, DMEPA staff evaluates the proposed name against potentially similar names. In order to identify names with potential similarity to the proposed proprietary name, DMEPA enters the proposed proprietary name in POCA and queries the name against the following drug reference databases, Drugs@fda, CernerRxNorm, and names in the review pipeline using a 55% threshold in POCA. DMEPA reviews the combined orthographic and phonetic matches and group the names into one of the following three categories:

- Highly similar pair: combined match percentage score ≥70%.
- Moderately similar pair: combined match percentage score ≥55% to ≤ 69%.
- Low similarity: combined match percentage score ≤54%.

Using the criteria outlined in the check list (Table 3-5) that corresponds to each of the three categories (highly similar pair, moderately similar pair, and low similarity), DMEPA evaluates the name pairs to determine the acceptability or non-acceptability of a proposed proprietary name. The intent of these checklists is to increase the transparency and predictability of the safety determination of whether a proposed name is vulnerable to confusion from a look-alike or sound-alike perspective. Each bullet below corresponds to

[a] National Coordinating Council for Medication Error Reporting and Prevention. http://www.nccmerp.org/aboutMedErrors.html. Last accessed 10/11/2007.

the name similarity category cross-references the respective table that addresses criteria that DMEPA uses to determine whether a name presents a safety concern from a look-alike or sound-alike perspective.

- For highly similar names, differences in product characteristics often cannot mitigate the risk of a medication error, including product differences such as strength and dose. Thus, proposed proprietary names that have a combined score of ≥ 70 percent are at risk for a look-alike sound-alike confusion which is an area of concern (See Table 3).
- Moderately similar names are further evaluated to identify the presence of attributes that are known to cause name confusion.
    - Name attributes: We note that the beginning of the drug name plays a significant role in contributing to confusion. Additionally, drug name pairs that start with the same first letter and contain a shared letter string of at least 3 letters in both names are major contributing factor in the confusion of drug names7F[a]. We evaluate all moderately similar names retrieved from POCA to identify the above attributes. These names are further evaluated to identify overlapping or similar strengths or doses.
    - Product attributes: Moderately similar names of products that have overlapping or similar strengths or doses represent an area for concern for FDA. The dose and strength information is often located in close proximity to the drug name itself on prescriptions and medication orders, and the information can be an important factor that either increases or decreases the potential for confusion between similarly named drug pairs. The ability of other product characteristics to mitigate confusion (e.g., route, frequency, dosage form) may be limited when the strength or dose overlaps. DMEPA reviews such names further, to determine whether sufficient differences exist to prevent confusion. (See Table 4).
- Names with low similarity that have no overlap or similarity in strength and dose are generally acceptable (See Table 5) unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

c. FDA Prescription Simulation Studies: DMEPA staff also conducts a prescription simulation studies using FDA health care professionals.

   Three separate studies are conducted within the Centers of the FDA for the proposed proprietary name to determine the degree of confusion of the proposed proprietary name with marketed U.S. drug names (proprietary and established) due to similarity in visual appearance with handwritten prescriptions or verbal pronunciation of the drug name. The studies employ healthcare professionals (pharmacists, physicians, and nurses), and attempts to simulate the prescription ordering process. The primary Safety Evaluator uses the results to identify orthographic or phonetic vulnerability of the proposed name to be misinterpreted by healthcare practitioners.

   In order to evaluate the potential for misinterpretation of the proposed proprietary name in handwriting and verbal communication of the name, inpatient medication orders and/or outpatient prescriptions are written, each consisting of a combination of marketed and unapproved drug products, including the proposed name. These orders are optically scanned and one prescription is delivered to a random sample of participating health professionals via e-mail. In addition, a verbal prescription is recorded on voice mail. The voice mail messages are then sent to a random sample of the participating health professionals for their interpretations and review. After receiving either the written or verbal prescription orders, the participants record their interpretations of the orders which are recorded electronically.

d. Comments from Other Review Disciplines: DMEPA requests the Office of New Drugs (OND) and/or Office of Generic Drugs (OGD), ONDQA or OBP for their comments or concerns with the proposed proprietary name, ask for any clinical issues that may impact the DMEPA review during the initial phase of the name review. Additionally, when applicable, at the same time DMEPA requests concurrence/non-concurrence with OPDP's decision on the name. The primary Safety Evaluator addresses any comments or concerns in the safety evaluator's assessment.

   The OND/OGD Regulatory Division is contacted a second time following our analysis of the proposed proprietary name. At this point, DMEPA conveys their decision to accept or reject the name. The OND or OGD Regulatory Division is requested to provide any further information that might inform DMEPA's final decision on the proposed name.

   Additionally, other review disciplines opinions such as ONDQA or OBP may be considered depending on the proposed proprietary name.

   When provided, DMEPA considers external proprietary name studies conducted by or for the Applicant/Sponsor and incorporates the findings of these studies into the overall risk assessment.

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[a] Shah, M, Merchant, L, Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

The DMEPA primary reviewer assigned to evaluate the proposed proprietary name is responsible for considering the collective findings, and provides an overall risk assessment of the proposed proprietary name.

Table 3. Highly Similar Name Pair Checklist (i.e., combined Orthographic and Phonetic score is ≥ 70%).

Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may render the names less likely to confusion, provided that the pair does not share a common strength or dose.			
Orthographic Checklist		Phonetic Checklist	
Y/N	Do the names begin with different first letters? *Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.*	Y/N	Do the names have different number of syllables?
Y/N	Are the lengths of the names dissimilar* when scripted? * *FDA considers the length of names different if the names differ by two or more letters.*	Y/N	Do the names have different syllabic stresses?
Y/N	Considering variations in scripting of some letters (such as *z* and *x*), is there a different number or placement of upstroke/downstroke letters present in the names?	Y/N	Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion?
Y/N	Is there different number or placement of cross-stroke or dotted letters present in the names?	Y/N	Across a range of dialects, are the names consistently pronounced differently?
Y/N	Do the infixes of the name appear dissimilar when scripted?		
Y/N	Do the suffixes of the names appear dissimilar when scripted?		

Table 4: Moderately Similar Name Pair Checklist (i.e., combined score is ≥55% to ≤69%).

Step 1	Review the DOSAGE AND ADMINISTRATION and HOW SUPPLIED/STORAGE AND HANDLING sections of the prescribing information (or for OTC drugs refer to the Drug Facts label) to determine if strengths and doses of the name pair overlap or are very similar. Different strengths and doses for products whose names are moderately similar may decrease the risk of confusion between the moderately similar name pairs. Name pairs that have overlapping or similar strengths or doses have a higher potential for confusion and should be evaluated further (see Step 2). Because the strength or dose could be used to express an order or prescription for a particular drug product, overlap in one or both of these components would be reason for further evaluation. For single strength products, also consider circumstances where the strength may not be expressed. For any i.e. drug products comprised of more than one active ingredient, consider whether the strength or dose may be expressed using only one of the components. To determine whether the strengths or doses are similar to your proposed product, consider the following list of factors that may increase confusion: • Alternative expressions of dose: 5 mL may be listed in the prescribing information, but the dose may be expressed in metric weight (e.g., 500 mg) or in non-metric units (e.g., 1 tsp, 1 tablet/capsule). Similarly, a strength or dose of 1000 mg may be expressed, in practice, as 1 g, or vice versa. • Trailing or deleting zeros: 10 mg is similar in appearance to 100 mg which may potentiate confusion between a name pair with moderate similarity. • Similar sounding doses: 15 mg is similar in sound to 50 mg
Step 2	Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may reduce the likelihood of confusion for moderately similar names **with** overlapping or similar strengths or doses.

	Orthographic Checklist (Y/N to each question)	Phonetic Checklist (Y/N to each question)
	• Do the names begin with different first letters? Note that even when names begin with different first letters, certain letters may be confused with each other when scripted. • Are the lengths of the names dissimilar* when scripted? *FDA considers the length of names different if the names differ by two or more letters. • Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names? • Is there different number or placement of cross-stroke or dotted letters present in the names? • Do the infixes of the name appear dissimilar when scripted? • Do the suffixes of the names appear dissimilar when scripted?	• Do the names have different number of syllables? • Do the names have different syllabic stresses? • Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion? • Across a range of dialects, are the names consistently pronounced differently?

Table 5: Low Similarity Name Pair Checklist (i.e., combined score is ≤54%).

Names with low similarity are generally acceptable unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

Appendix A1: Description of FAERS

The FDA Adverse Event Reporting System (FAERS) is a database that contains information on adverse event and medication error reports submitted to FDA. The database is designed to support the FDA's postmarket safety surveillance program for drug and therapeutic biologic products. The informatic structure of the FAERS database adheres to the international safety reporting guidance issued by the International Conference on Harmonisation. FDA's Office of Surveillance and Epidemiology codes adverse events and medication errors to terms in the Medical Dictionary for Regulatory Activities (MedDRA) terminology. Product names are coded using the FAERS Product Dictionary. More information about FAERS can be found at:
http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Surveillance/AdverseDrugEffects/default.htm.

Appendix B: Prescription Simulation Samples and Results

Figure 1. (b) (4) Study (Conducted on August 9, 2019)

Handwritten Medication Order/Prescription	Verbal Prescription
Medication Order: (b) (4) 2 tabs po BID #120 tabs	(b) (4) Take 2 tablets by mouth twice daily Dispense 120
Outpatient Prescription: (b) (4) 4 tabs po bid	

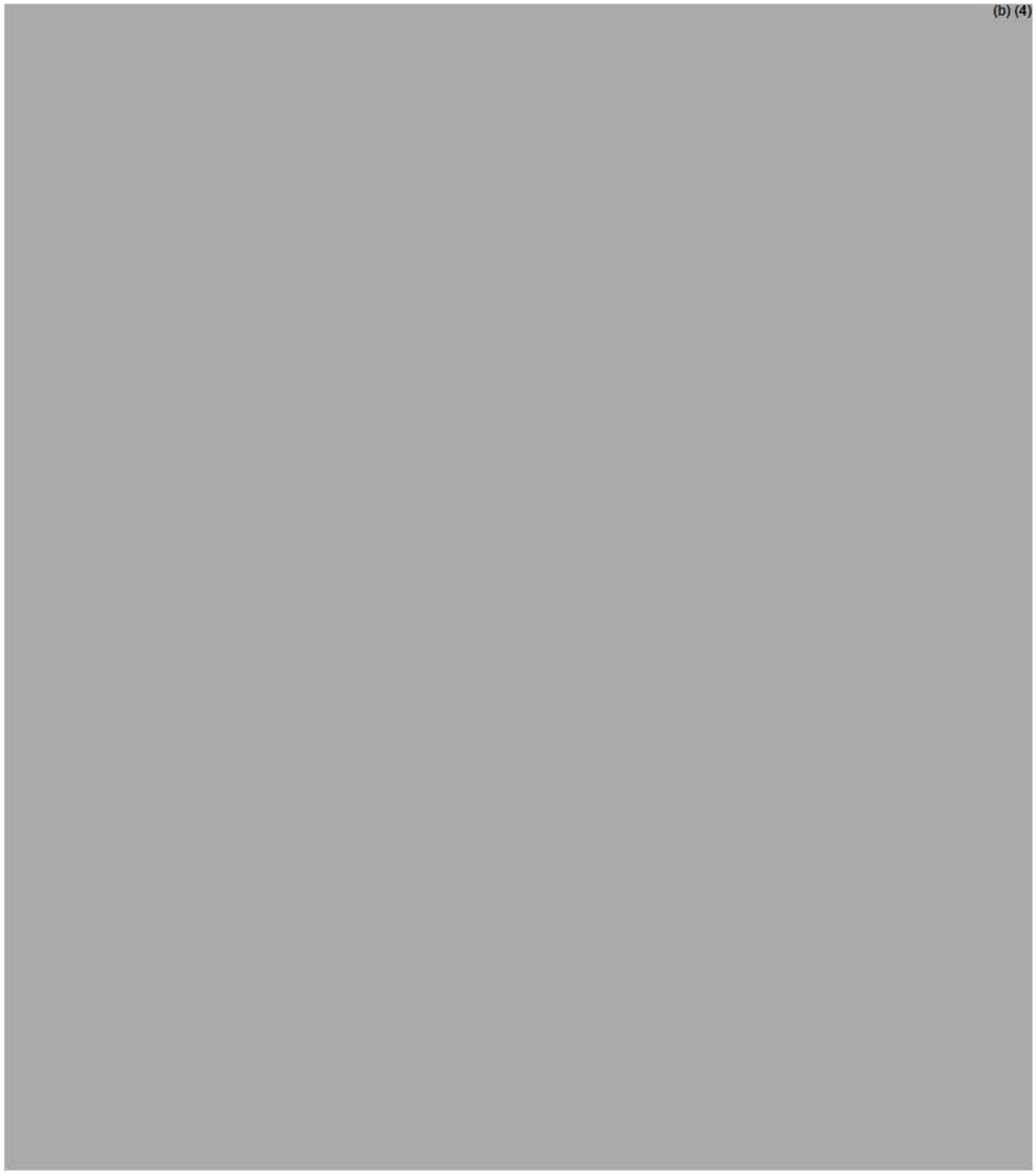
FDA Prescription Simulation Responses (Aggregate Report)

As of Date 9/15/2019

216 People Received Study

72 People Responded

Study Name: (b) (4)



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/s/

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