CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

208653Orig1s000

PROPRIETARY NAME REVIEW(S)

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:	November 6, 2017
Application Type and Number:	NDA 208653
Product Name and Strength:	Apadaz (benzhydrocodone and acetaminophen) Tablets 6.12 mg/325 mg
Product Type:	Multi-Ingredient product
Rx or OTC:	Rx
Applicant/Sponsor Name:	KemPharm, Inc.
Panorama #:	2017-17157994
DMEPA Safety Evaluator:	James Schlick, MBA, RPh
DMEPA Team Leader:	Otto L. Townsend, PharmD

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1 INTRODUCTION

This review evaluates the proposed proprietary name, Apadaz, from a safety and misbranding perspective. The sources and methods used to evaluate the proposed name are outlined in the reference section and Appendix A respectively. The Applicant submitted an external name study, conducted (b) (4) for this product.

1.1 REGULATORY HISTORY

The Applicant previously submitted the proposed proprietary name, Apadaz*** on December 22, 2015, and DMEPA found the name acceptable under NDA 208653 on February 29, 2016.[a]

The Applicant re-submitted their proposed proprietary name on August 23, 2017 for re-review under the NDA as part of their re-submission. Since DMEPA's previous review, the Applicant has changed the strength (6.67 mg to 6.12 mg), dose (1 tab to 1-2 tabs), and introduced a wallet card configuration.

1.2 PRODUCT INFORMATION

The following product information is provided in the August 23, 2017 proprietary name submission.

- Intended Pronunciation: ap' ah daz
- Active Ingredient: benzhydrocodone and acetaminophen
- Indication of Use: short-term (no more than 14 day) management of acute pain
- Route of Administration: Oral
- Dosage Form: Tablets
- Strength: 6.12 mg/325 mg
- Dose and Frequency: 1 to 2 tablets every 4 to 6 hours as needed
- How Supplied: Bottle of 100 tablets and Wallet blister card containing 18 tablets
- Storage: Room temperature

2 RESULTS

The following sections provide information obtained and considered in the overall evaluation of the proposed proprietary name.

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that the proposed name would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis

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[a] Schlick, J. Proprietary Name Review for Apadaz (NDA 208653). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US);. Panorama No. 2015-2320297.

(DMEPA) and the Division of Anesthesia, Analgesia, and Addiction Products (DAAAP) concurred with the findings of OPDP's assessment of the proposed name.

2.2 SAFETY ASSESSMENT

The following aspects were considered in the safety evaluation of the name.

2.2.1 United States Adopted Names (USAN) Search

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

2.2.2 Components of the Proposed Proprietary Name

The Applicant did not provide a derivation or intended meaning for the proposed name, Apadaz, in their submission. 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.

2.2.3 Comments from Other Review Disciplines at Initial Review

In response to the OSE, September 6, 2017 e-mail, the Division of Anesthesia, Analgesia, and Addiction Products (DAAAP) did not forward any comments or concerns relating to the proposed proprietary name at the initial phase of the review.

2.2.4 FDA Name Simulation Studies

Sixty-eight practitioners participated in DMEPA's prescription studies. The responses did not overlap with any currently marketed products nor did the responses sound or look similar to any currently marketed products or any products in the pipeline. Appendix B contains the results from the verbal and written prescription studies.

2.2.5 Phonetic and Orthographic Computer Analysis (POCA) Search Results

Our POCA search[c] identified 66 names with a combined phonetic and orthographic score of ≥55% or an individual phonetic or orthographic score ≥70**.** These names are included in Table 1 below.

2.2.6 Names with Strength Overlap and Potential Orthographic, Spelling, and Phonetic Similarities

The proposed product, Apadaz, will be available in a 6.12 mg/325 mg strength. Since this is not a typical strength that is commonly marketed, we searched the Electronic Drug Registration and Listing System (eDRLS) database to identify names with strength overlap. We did not identify any names with strength overlap and potential orthographic, spelling, and phonetic similarities with Apadaz that were not identified in POCA. Names identified in the eDRLS database not likely to be confused due to notable spelling, orthographic and phonetic differences are listed in Appendix I.

[b] USAN stem search conducted on September 6, 2017.

[c] POCA search conducted on August 31, 2017 in version 4.1.

2.2.7 Names Retrieved for Review Organized by Name Pair Similarity

Table 1 lists the number of names retrieved from our POCA search and the (b) (4) external study. These name pairs are organized as highly similar, moderately similar or low similarity for further evaluation.

Table 1. Similarity Category	**Number of Names**
Highly similar name pair: combined match percentage score ≥70%	4
Moderately similar name pair: combined match percentage score ≥55% to ≤ 69%	64
Low similarity name pair: combined match percentage score ≤54%	38

2.2.8 Communication of DMEPA's Analysis at Midpoint of Review

DMEPA communicated our findings to the Division of Anesthesia, Analgesia, and Addiction Products (DAAAP) via e-mail on October 27, 2017. At that time we also requested additional information or concerns that could inform our review. Per e-mail correspondence from DAAAP on Novenber 6, 2017, they stated no additional concerns with the proposed proprietary name, Apadaz.

3 CONCLUSIONS

The proposed proprietary name is acceptable.

If you have any questions or need clarifications, please contact Wendy Brown, OSE project manager, at 240-402-9140.

3.1 COMMENTS TO THE APPLICANT

We have completed our review of the proposed proprietary name, Apadaz, and have concluded that this name is acceptable.

If any of the proposed product characteristics as stated in your August 23, 2017 submission are altered prior to approval of the marketing application, the name must be resubmitted for review.

4 REFERENCES

1. ***USAN Stems (http://www.ama-assn.org/ama/pub/physician-resources/medical-science/united-states-adopted-names-council/naming-guidelines/approved-stems.page)***

   USAN Stems List contains all the recognized USAN stems.

2. ***Phonetic and Orthographic Computer Analysis (POCA)***

POCA is a system that FDA designed. As part of the name similarity assessment, POCA is used to evaluate proposed names via a phonetic and orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists that operates in a similar fashion. POCA is publicly accessible.

Drugs@FDA

Drugs@FDA is an FDA Web site that contains most of the drug products approved in the United States since 1939. The majority of labels, approval letters, reviews, and other information are available for drug products approved from 1998 to the present. Drugs@FDA contains official information about FDA-approved *brand name* and *generic drugs*; *therapeutic biological products*, *prescription* and *over-the-counter* human drugs; and *discontinued drugs* (see Drugs @ FDA Glossary of Terms, available at http://www.fda.gov/Drugs/InformationOnDrugs/ucm079436.htm#ther_biological).

RxNorm

RxNorm contains the names of prescription and many OTC drugs available in the United States. RxNorm includes generic and branded:

- Clinical drugs – pharmaceutical products given to (or taken by) a patient with therapeutic or diagnostic intent
- Drug packs – packs that contain multiple drugs, or drugs designed to be administered in a specified sequence

Radiopharmaceuticals, contrast media, food, dietary supplements, and medical devices, such as bandages and crutches, are all out of scope for RxNorm (http://www.nlm.nih.gov/research/umls/rxnorm/overview.html#).

Division of Medication Errors Prevention and Analysis proprietary name consultation requests

This is a list of proposed and pending names that is generated by the Division of Medication Error Prevention and Analysis from the Access database/tracking system.

3. ***Electronic Drug Registration and Listing System (eDRLS) database***

The electronic Drug Registration and Listing System (eDRLS) was established to supports the FDA's Center for Drug Evaluation and Research (CDER) goal to establish a common Structured Product Labeling (SPL) repository for all facilities that manufacture regulated drugs. The system is a reliable, up-to-date inventory of FDA-regulated, drugs and establishments that produce drugs and their associated information.

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. [d]

***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)).

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

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 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 names[e]. 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.

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

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.

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	**Y/N**	Do the names have different

	dissimilar* when scripted? **FDA considers the length of names different if the names differ by two or more letters.*		syllabic stresses?
Y/N	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?	**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

<table>
<tr><td></td><td colspan="2">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.

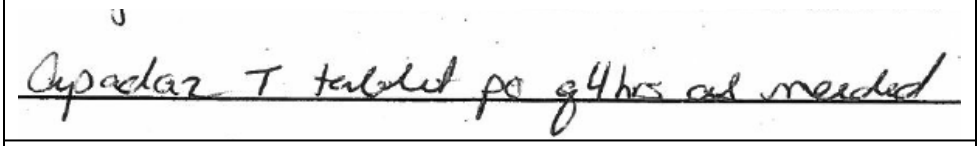
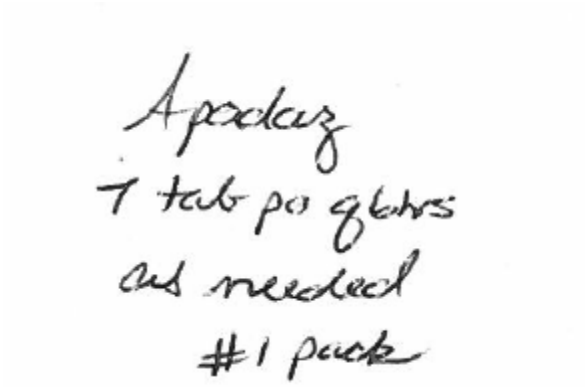
• Similar sounding doses: 15 mg is similar in sound to 50 mg</td></tr>
<tr><td rowspan="2">Step 2</td><td colspan="2">Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may reduce the likelihood of confusion for moderately similar names <u>with</u> overlapping or similar strengths or doses.</td></tr>
<tr><td>Orthographic 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?</td><td>Phonetic Checklist (Y/N to each question)
• 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?</td></tr>
</table>

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 B: Prescription Simulation Samples and Results

Figure 1. Apadaz Study (Conducted on August 30, 2017)

Handwritten Medication Order/Prescription	Verbal Prescription
Medication Order:  	Apadaz 1 tablet po every 6 hours as needed Disp #1 pk
Outpatient Prescription:  	

FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

			291 People Received Study 68 People Responded	
Study Name: Apadaz				
Total	**22**	**24**	**22**	
INTERPRETATION	**OUTPATIENT**	**VOICE**	**INPATIENT**	**TOTAL**
ABADAZ	0	1	0	1
AFFADAZZ	0	1	0	1
AMPIDAZZ	0	1	0	1
APACLAZ	0	0	2	2
APADAR	0	0	1	1
APADAZ	2	6	10	18
APBIDAZ	0	1	0	1
APIDAZ	0	7	0	7
APODAZ	18	1	4	23
AVADAZ	0	1	0	1
CIPADAZ	0	0	2	2
HAFADAZ	0	1	0	1
HAPADASS	0	1	0	1
HAPADAZ	0	2	0	2
OPADAZ	0	0	2	2
OPADIAS	0	1	0	1
OYSADAZ	0	0	1	1
SPODAZ	2	0	0	2

Appendix C: Highly Similar Names (e.g., combined POCA score is ≥70%)

No.	**Proposed name: Apadaz** **Established name: benzhydrocodone and acetaminophen** **Dosage form: Tablet** **Strength(s): 6.12 mg/325 mg** **Usual Dose: 1 to 2 tablets orally** **every 4 to 6 hours as needed**	**POCA Score (%)**	**Orthographic and/or phonetic differences in the names sufficient to prevent confusion** **Other prevention of failure mode expected to minimize the risk of confusion between these two names.**
1.	Apadaz***	100	Name that is the subject of this review.
2.	Pannaz	74	Brand discontinued with no generic equivalent available.[f]
3.	Apeaz	72	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
4.	Epimaz	70	International carbamazepine product marketed in the United Kingdom.

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[f] https://www.federalregister.gov/documents/2011/03/03/2011-4703/drugs-for-human-use-unapproved-and-misbranded-oral-drugs-labeled-for-prescription-use-and-offered. Accessed on September 18, 2017.

Appendix D: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with no overlap or numerical similarity in Strength and/or Dose

No.	Name	POCA Score (%)
5.	Adidas	68
6.	Apacet	67
7.	Ceptaz	62
8.	Ed-Apap	62
9.	Pataday	62
10.	Amphadase	60
11.	Vidaza	60
12.	Avycaz	58
13.	Adalat	57
14.	(b) (4) ***	56
15.	Adacel	56
16.	Adagen	56
17.	Alphagan	56
18.	Atacand	56
19.	Epinal	56
20.	Papain	56
21.	Avagard	55
22.	Avagard D	55

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Appendix E: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

No.	**Proposed name: Apadaz** **Established name: benzhydrocodone and acetaminophen** **Dosage form: Tablet Strength(s): 6.12 mg/325 mg Usual Dose: 1 to 2 tablets orally** **every 4 to 6 hours as needed**	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
23.	Akovaz	64	This name pair has sufficient orthographic and phonetic differences.
24.	Apidra	64	Apidra is an insulin product and the usual dose is 5 units to 50 units subcutaneously, or via intravenous or subcutaneous continuous infusion based on weight vs. 1to 2 tablets for Apadaz. Thus, there is no overlap or similarity in dose. Also, there is no overlap or similarity in strength for these products (100 units/ml vs. 6.12 mg/325 mg). The suffixes of this name pair have sufficient orthographic differences when scripted. The third syllables of this name pair sound different.
25.	Anaspaz	62	This name pair has sufficient orthographic and phonetic differences.
26.	Adapin	61	This name pair has sufficient orthographic and phonetic differences.
27.	Amvaz	60	This name pair has sufficient orthographic and phonetic differences.
28.	Adasuve	58	This name pair has sufficient orthographic and phonetic differences.
29.	Apap-Pm	58	This name pair has sufficient orthographic and phonetic differences.
30.	Opana	58	This name pair has sufficient orthographic and phonetic differences.
31.	(b) (4) ***	58	This name pair has sufficient orthographic and phonetic differences.

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No.	Proposed name: Apadaz Established name: benzhydrocodone and acetaminophen Dosage form: Tablet Strength(s): 6.12 mg/325 mg Usual Dose: 1 to 2 tablets orally every 4 to 6 hours as needed	POCA Score (%)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
32.	Aphedrid	57	This name pair has sufficient orthographic and phonetic differences.
33.	A-Spas	57	This name pair has sufficient orthographic and phonetic differences.
34.	Azasan	57	This name pair has sufficient orthographic and phonetic differences.
35.	(b) (4) ***	57	This name pair has sufficient orthographic and phonetic differences.
36.	Adempas	56	This name pair has sufficient orthographic and phonetic differences.
37.	Amabelz	56	This name pair has sufficient orthographic and phonetic differences.
38.	Evotaz	56	This name pair has sufficient orthographic and phonetic differences.
39.	Pradaxa	56	This name pair has sufficient orthographic and phonetic differences.
40.	Tapazole	56	This name pair has sufficient orthographic and phonetic differences.

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Appendix F: Low Similarity Names (e.g., combined POCA score is ≤54%)

No.	Name	POCA Score (%)
41.	(b) (4) ***	49
42.	atamet	54
43.	axid ar	54
44.	capastat	54
45.	haponal	54
46.	ipodate	54
47.	laxadan	54
48.	arfonad	53
49.	ativan	53
50.	ed a-ceph	53
51.	a-phedrin	52
52.	atarax	52
53.	depade	52
54.	efidac	52
55.	patanol	52
56.	aqua-ban	51
57.	a tan-12x	50
58.	ablavar	50
59.	altabax	50
60.	amidate	50
61.	atnativ	50
62.	avodart	50
63.	acanya	48
64.	actidil	48
65.	ethatab	48
66.	opdivo	48
67.	optase	48
68.	abacavir	46
69.	aceta	45
70.	reyataz	45
71.	epidrin	44
72.	alprazolam	43
73.	pretz	43
74.	adapalene	42
75.	epiduo	40
76.	abstral	36
77.	hydase	34

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Appendix G: Names not likely to be confused or not used in usual practice settings for the reasons described**.**

No.	Name	POCA Score (%)	Failure preventions
78.	Pannaz S	68	Brand discontinued with no generic equivalent available. Name identified in (b) (4) external study. Unable to find product characteristics in commonly used drug databases.
79.	Apazone	64	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
80.	Apara	61	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
81.	Adizem	58	International product marketed in Ireland, United Kingdom, and Israel.
82.	Bepadin	58	Discontinued per Drugs@FDA; no generics available
83.	Anabar	57	Name identified in RxNorm database. Product characteristics found in Redbook, but product is no longer marketed and no generic alternatives are available.
84.	Acupan	56	International product marketed in Mexico and United Kingdom.
85.	Adgan	56	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
86.	Anased	56	International product marketed in United Kingdom.
87.	Altatapp	55	Discontinued because as of November 2000, the U.S. FDA is taking steps to remove phenylpropanolamine (PPA) from all drug products and has requested that drug companies discontinue marketing products containing PPA due to a public health advisory concerning the risk of hemorrhagic stroke, or bleeding into the brain, associated with PPA.
88.	Lta Ped	55	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases
89.	aquatag	50	Product that is discontinued with no generic equivalent available; NDA 016001 – Withdrawn FR Notice effective 8-5-1996.

Appendix H: Names not likely to be confused due to absence of attributes that are known to cause name confusion[g].

No.	Name	POCA Score (%)
90.	Epaned	69
91.	Darpaz	67
92.	Dopa, Dl	60
93.	Ed Spaz	60
94.	Phenadoz	60
95.	(b) (4) ***	60
96.	Pandel	59
97.	Pacaps	58
98.	Panase	57
99.	Parid	57
100.	Captan	56
101.	Epanova	56
102.	Paccal	56
103.	Parmid	56
104.	Phenazo	56
105.	tana dm	56
106.	Temaz	55

Appendix I: Names identified in the eDRLS database not likely to be confused due to notable spelling, orthographic and phonetic differences.

No.	Name
1.	Medi-scrub

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

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/s/

JAMES H SCHLICK
11/06/2017

OTTO L TOWNSEND
11/06/2017

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:	February 29, 2016
Application Type and Number:	NDA 208653
Product Name and Strength:	Apadaz (benzhydrocodone and acetaminophen) Tablets 6.67 mg/325 mg
Product Type:	Multi-ingredient product
Rx or OTC:	Rx
Applicant/Sponsor Name:	KemPharm, Inc.
Panorama #:	2015-2320297
DMEPA Primary Reviewer:	James Schlick, RPh, MBA
DMEPA Team Leader:	Vicky Borders-Hemphill, PharmD

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1 INTRODUCTION

This review evaluates the proposed proprietary name, Apadaz, from a safety and misbranding perspective. The sources and methods used to evaluate the proposed name are outlined in the reference section and Appendix A respectively. The Applicant submitted an external name study, conducted (b) (4) for this product.

1.1 PRODUCT INFORMATION

The following product information is provided in the December 22, 2015 proprietary name submission.

- Intended Pronunciation: ap' ah daz
- Active Ingredient: benzhydrocodone and acetaminophen
- Indication of Use: short-term (no more than 14 day) management of acute pain
- Route of Administration: Oral
- Dosage Form: Tablets
- Strength: 6.67 mg/325 mg
- Dose and Frequency: (b) (4) every 4 to 6 hours as needed
- How Supplied/ Container and Closure Systems: Bottle of 100 tablets
- Storage: Room temperature

2 RESULTS

The following sections provide information obtained and considered in the overall evaluation of the proposed proprietary name.

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that the proposed name would not misbrand the proposed product. DMEPA and the Division of Analgesia, Anesthesia, and Addiction Products (DAAAP) concurred with the findings of OPDP's assessment of the proposed name.

2.2 SAFETY ASSESSMENT

The following aspects were considered in the safety evaluation of the name.

2.2.1 United States Adopted Names (USAN) Search

There is no USAN stem present in the proprietary name[1].

[1]USAN stem search conducted on January 4, 2015.

Reference ID: 3894105

2.2.2 Components of the Proposed Proprietary Name

The Applicant did not provide a derivation or intended meaning for the proposed name, Apadaz, in their submission. 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.

2.2.3 FDA Name Simulation Studies

Sixty-three practitioners participated in DMEPA's prescription studies. The responses did not overlap with any currently marketed products nor did the responses sound or look similar to any currently marketed products or any products in the pipeline. Appendix B contains the results from the verbal and written prescription studies.

2.2.4 Comments from Other Review Disciplines at Initial Review

In response to the OSE, January 7, 2016 e-mail, the Division of Analgesia, Anesthesia, and Addiction Products (DAAAP) did not forward any comments or concerns relating to the proposed proprietary name at the initial phase of the review.

2.2.5 Phonetic and Orthographic Computer Analysis (POCA) Search Results

Table 1 lists the number of names with the combined orthographic and phonetic score of ≥50% retrieved from our POCA search[2] organized as highly similar, moderately similar or low similarity for further evaluation. Table 1 also includes names identified (b) (4)

Table 1. POCA Search Results	**Number of Names**
Highly similar name pair: combined match percentage score ≥70%	3
Moderately similar name pair: combined match percentage score ≥50% to ≤ 69%	112
Low similarity name pair: combined match percentage score ≤49%	6

2.2.6 Names with Potential Orthographic, Spelling, and Phonetic Similarities that overlap in strength

The proposed product, Apadaz, will be available in strength of 6.67 mg/325 mg. Since this is not a commonly marketed strength, we searched the Electronic Drug Registration and Listing System (eDRLS) database to identify any names with potential orthographic, spelling, and phonetic similarities with Apadaz that were not identified in POCA, and found to have an overlap in strength with Apadaz.

[2] POCA search conducted on December 24, 2015.

Table 1A. eDRLS Search Results	POCA score
Eliphos	29

2.2.7 Safety Analysis of Names with Potential Orthographic, Spelling, and Phonetic Similarities

Our analysis of the 122 names contained in Table 1 and Table 1A determined 122 names will not pose a risk for confusion as described in Appendices C through I.

2.2.8 Communication of DMEPA's Analysis at Midpoint of Review

DMEPA communicated our findings to the Division of Analgesia, Anesthesia, and Addiction Products (DAAAP) via e-mail on February 19, 2016. At that time we also requested additional information or concerns that could inform our review. Per e-mail correspondence from (DAAAP) on February 29, 2016 they stated no additional concerns with the proposed proprietary name, Apadaz.

3 CONCLUSIONS

The proposed proprietary name is acceptable.

If you have any questions or need clarifications, please contact Davis Mathew, OSE project manager, at 240-402-4559.

3.1 COMMENTS TO THE APPLICANT

We have completed our review of the proposed proprietary name, Apadaz, and have concluded that this name is acceptable.

If any of the proposed product characteristics as stated in your December 22, 2015 submission are altered prior to approval of the marketing application, the name must be resubmitted for review.

4 REFERENCES

1. ***USAN Stems (http://www.ama-assn.org/ama/pub/physician-resources/medical-science/united-states-adopted-names-council/naming-guidelines/approved-stems.page)***

   USAN Stems List contains all the recognized USAN stems.

2. Phonetic and Orthographic Computer Analysis (POCA)

POCA is a system that FDA designed. As part of the name similarity assessment, POCA is used to evaluate proposed names via a phonetic and orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists that operates in a similar fashion. POCA is publicly accessible.

Drugs@FDA

Drugs@FDA is an FDA Web site that contains most of the drug products approved in the United States since 1939. The majority of labels, approval letters, reviews, and other information are available for drug products approved from 1998 to the present. Drugs@FDA contains official information about FDA-approved *brand name* and *generic drugs*; *therapeutic biological products*, *prescription* and *over-the-counter* human drugs; and *discontinued drugs* (see Drugs @ FDA Glossary of Terms, available at http://www.fda.gov/Drugs/InformationOnDrugs/ucm079436.htm#ther_biological).

RxNorm

RxNorm contains the names of prescription and many OTC drugs available in the United States. RxNorm includes generic and branded:

- Clinical drugs – pharmaceutical products given to (or taken by) a patient with therapeutic or diagnostic intent
- Drug packs – packs that contain multiple drugs, or drugs designed to be administered in a specified sequence

Radiopharmaceuticals, contrast media, food, dietary supplements, and medical devices, such as bandages and crutches, are all out of scope for RxNorm (http://www.nlm.nih.gov/research/umls/rxnorm/overview.html#).

Division of Medication Errors Prevention and Analysis proprietary name consultation requests

This is a list of proposed and pending names that is generated by the Division of Medication Error Prevention and Analysis from the Access database/tracking system.

3. Electronic Drug Registration and Listing System (eDRLS) database

The electronic Drug Registration and Listing System (eDRLS) was established to supports the FDA's Center for Drug Evaluation and Research (CDER) goal to establish a common Structured Product Labeling (SPL) repository for all facilities that manufacture regulated drugs. The system is a reliable, up-to-date inventory of FDA-regulated, drugs and establishments that produce drugs and their associated information.

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. [3]

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

***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 medical and/or coined abbreviations in the proprietary name?**
	Proprietary names should not incorporate medical abbreviations (e.g., QD, BID, or others commonly used for prescription communication) or coined abbreviations that have no established meaning.
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 50% 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 ≥50% to ≤ 69%.
   - Low similarity: combined match percentage score ≤49%.

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 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 with overlapping or similar strengths or doses represent an area for concern for FDA. The dosage and strength information is often located in close proximity to the drug name itself on prescriptions and medication orders, and it 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, etc.) may be limited when the strength or dose overlaps. We review 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.

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 *f*), 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 ≥50% 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) • 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?	Phonetic Checklist (Y/N to each question) • 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 ≤49%).

In most circumstances, these names are viewed as sufficiently different to minimize confusion. Exceptions to this would occur in circumstances where, for example, there are data that suggest a name with low similarity is nonetheless misinterpreted as a marketed product name in a prescription simulation study. In such instances, FDA would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

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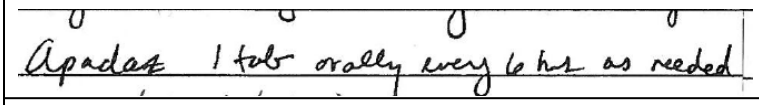
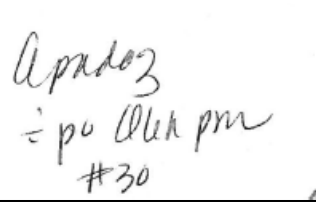
Appendix B: Prescription Simulation Samples and Results

Figure 1. Apadaz Study (Conducted on January 6, 2016)

Handwritten Requisition Medication Order	Verbal Prescription
Medication Order:  Outpatient Prescription:  	Apadaz 1 tab by mouth every 6 hours as needed Dispense# 30

FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

239 People Received Study
63 People Responded

Study Name: Apadaz

Total	20	24	19	

INTERPRETATION	OUTPATIENT	VOICE	INPATIENT	TOTAL
ABADAZ	0	2	0	2
ABEDAZ	0	1	0	1
ABIDAZ	0	1	0	1
APADAS	0	0	1	1
APADASE	0	1	0	1
APADAT	0	0	2	2
APADAX	0	0	1	1
APADAZ	0	0	15	15
APADEZ	0	1	0	1
APADOZ	16	0	0	16
APANDOZ	1	0	0	1
APEDAZ	0	1	0	1
APIDAZ	0	5	0	5
APNDOZ	1	0	0	1
APPIDAZ	0	1	0	1
APUDOZ	2	0	0	2
EPIDAZ	0	1	0	1
HABADAS	0	1	0	1
HABIDAZ	0	1	0	1
HAPADAS	0	2	0	2
HAPIDAS	0	1	0	1
HAPPEDAZ	0	1	0	1
HEPADAYZ	0	1	0	1
HEPADAZZ	0	1	0	1
HEPADEZ	0	2	0	2

Appendix C: Highly Similar Names (e.g., combined POCA score is ≥70%)

No.	**Proposed name: Apadaz** **Established name: benzhydrocodone and acetaminophen** **Dosage form: Tablet** **Strength(s): 6.67 mg/325 mg** **Usual Dose: (b) (4) orally every 4 to 6 hours as needed**	**POCA Score (%)**	**Orthographic and/or phonetic differences in the names sufficient to prevent confusion** **Other prevention of failure mode expected to minimize the risk of confusion between these two names.**
1.	Apeaz	72	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
2.	Epimaz	72	International carbamazepine product marketed in the United Kingdom
3.	Pannaz	70	Brand discontinued with no generic equivalent available. The names begin with different letters. There are a different number of upstroke letters in Apadaz compared to Pannaz and the infixes appear dissimilar when scripted. Apadaz has an extra syllable compared to Pannaz. Oral prescriptions for schedule II narcotics can only be received by a pharmacist in an emergency situation. The prescriber can only prescribe enough medication to treat the patient during the emergency period. The oral prescription must contain the strength, dose, and specific directions for use. Also, the prescriber must deliver within 7 days, a written prescription, for the emergency quantity prescribed.[4] Thus, it is unlikely that an oral prescription for Apadaz will be confused with Pannaz due to the unique circumstances that are required to fill and dispense an emergency prescription for schedule II narcotics.

[4] Code of Federal Regulations – 21 CFR 1306.11 (d)

Appendix D: Moderately Similar Names (e.g., combined POCA score is ≥50% to ≤69%) with no overlap or numerical similarity in Strength and/or Dose

No.	Name	POCA Score (%)
1.	Adidas	67
2.	Apacet	62
3.	Avycaz	62
4.	Ceptaz	62
5.	(b) (4) ***	60
6.	Epinal	57
7.	Atamet	56
8.	Ablavar	54
9.	Aceta	54
10.	Adacel	54
11.	Adagen	54
12.	AmphAdase	54
13.	Atacand	54
14.	Atazine	54
15.	Ativan	54
16.	BePadin	54
17.	PatAday	54
18.	Adalat	53
19.	Avagard	53
20.	(b) (4) ***	52
21.	Arfonad	52
22.	Atarax	52
23.	Avagard D	52
24.	CApastat	52
25.	Ed-Apap	52
26.	Vidaza	52
27.	Acanya	50

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No.	Name	POCA Score (%)
28.	Alphagan	50
29.	Altabax	50
30.	Atnativ	50
31.	Epidri	50
32.	Epiduo	50
33.	PApain	50

Reference ID: 3894105

Appendix E: Moderately Similar Names (e.g., combined POCA score is ≥50% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

No.	**Proposed name: Apadaz** **Established name: benzhydrocodone and acetaminophen** **Dosage form: Tablet** **Strength(s): 6.67 mg/325 mg** **Usual Dose: (b) (4) orally every 4 to 6 hours as needed**	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
1.	Epaned	67	The suffixes of this name pair have sufficient orthographic differences The third syllables of this name pair sound different
2.	Akovaz***	65	The infixes of this name pair have sufficient orthographic differences The first and third syllables of this name pair sound different
3.	Amvaz	62	The infixes of this name pair have sufficient orthographic differences The second syllables of this name pair sound different Apadaz contains an extra syllable.
4.	Anaspaz	62	The infixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different

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No.	**Proposed name: Apadaz** **Established name: benzhydrocodone and acetaminophen** **Dosage form: Tablet** **Strength(s): 6.67 mg/325 mg** **Usual Dose: (b) (4) orally every 4 to 6 hours as needed**	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
5.	Apidra	60	Apidra is an insulin product and the usual dose is 5 units to 50 units subcutaneously, or via intravenous or subcutaneous continuous infusion based on weight vs. one tablet for Apadaz. Thus there is no overlap or similarity in dose. Also, there is no overlap or similarity in strength for these products (100 units/ml vs. 6.67 mg/325 mg). Apadaz is a class 2 controlled substance. Under DEA requirements, specific information, including strength, dose and frequency of administration, is required on a prescription for a controlled substance[5]. The suffixes of this name pair have sufficient orthographic differences when scripted The third syllables of this name pair sound different
6.	Evotaz	60	The prefixes of this name pair have sufficient orthographic differences The first and second syllables of this name pair sound different
7.	Opana	60	The infixes and suffixes of this name pair have sufficient orthographic differences The third syllables of this name pair sound different
8.	Anabar	59	The prefixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different
9.	Adasuve	58	The prefixes, infixes, and suffixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different

[5] Code of Federal Regulations – 21 CFR 1306.11 (d)

No.	**Proposed name: Apadaz** **Established name: benzhydrocodone and acetaminophen** **Dosage form: Tablet** **Strength(s): 6.67 mg/325 mg** **Usual Dose: (b) (4) orally every 4 to 6 hours as needed**	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
10.	Amabelz***	58	The prefixes and suffixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different
11.	Axid Ar	56	The prefixes, infixes, and suffixes of this name pair have sufficient orthographic differences The last syllables of this name pair sound different Axid AR has a modifier "AR" if written may afford a difference
12.	Adapin	55	The prefixes, infixes, and suffixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different
13.	Aphedrid	54	The prefixes and suffixes of this name pair have sufficient orthographic differences The third syllables of this name pair sound different
14.	(b) (4) ***	54	The prefixes, infixes, and suffixes of this name pair have sufficient orthographic differences The first and third syllables of this name pair sound different
15.	Altatapp	53	The prefixes and suffixes of this name pair have sufficient orthographic differences The third syllables of this name pair sound different
16.	Azasan	53	The infixes and suffixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different

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No.	**Proposed name: Apadaz** **Established name: benzhydrocodone and acetaminophen** **Dosage form: Tablet** **Strength(s): 6.67 mg/325 mg** **Usual Dose: (b) (4) orally every 4 to 6 hours as needed**	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
17.	(b) (4)***	52	The prefixes and infixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different
18.	Apap-Pm	52	The infixes and suffixes of this name pair have sufficient orthographic differences The third syllables of this name pair sound different
19.	Aqua-Ban	52	The suffixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different
20.	A-Spas	52	The suffixes of this name pair have sufficient orthographic differences The last syllables of this name pair sound different Apadaz contains an extra syllable.
21.	Avodart	52	The prefixes and suffixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different
22.	DePade	52	The prefixes and suffixes of this name pair have sufficient orthographic differences The first and last syllables of this name pair sound different Apadaz contains an extra syllable.

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No.	**Proposed name: Apadaz** **Established name: benzhydrocodone and acetaminophen** **Dosage form: Tablet** **Strength(s): 6.67 mg/325 mg** **Usual Dose: (b) (4) orally every 4 to 6 hours as needed**	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
23.	Amitid	51	The prefixes and suffixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different
24.	Actidil	50	The prefixes and suffixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different
25.	Adempas	50	The prefixes and infixes of this name pair have sufficient orthographic differences The second and third syllables of this name pair sound different
26.	Antepar	50	The prefixes and infixes of this name pair have sufficient orthographic differences The first and third syllables of this name pair sound different
27.	Epidrin	50	The suffixes of this name pair have sufficient orthographic differences The third syllables of this name pair sound different
28.	LaxAdan	50	The prefixes of this name pair have sufficient orthographic differences The first and third syllables of this name pair sound different

Appendix F: Low Similarity Names (e.g., combined POCA score is ≤49%)

No.	Name	POCA Score (%)
1.	Abacavir	49
2.	Reyataz	46
3.	Alprazolam	37
4.	Adapalene	36
5.	Abstral	35
6.	Hydase	35

Appendix G: Names not likely to be confused or not used in usual practice settings for the reasons described**.**

No.	Name	POCA Score (%)	Failure preventions
1.	Apazone	62	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
2.	Apara	59	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
3.	Adizem	56	International product marketed in Ireland, UK, Israel
4.	Amitraz	56	Product is not a drug. It is an insecticide
5.	Aquatag	54	Product that is discontinued with no generic equivalent available.
6.	(b) (4) ***	54	Name denied in OSE review# 2012-2940 under NDA 200153. The name Liptruzet was approved on May 3, 2013
7.	Acupan	52	International product marketed in Mexico and United Kingdom.
8.	Anased	52	International product marketed in UK
9.	(b) (4) ***	52	Name withdrawn under NDA 204412. The name Delzicol was approved on February, 1, 2013.
10.	Acitak 200	50	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
11.	Acitak 400	50	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
12.	Acitak 800	50	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
13.	Adgan	50	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
14.	Almodan	50	International product formerly marketed in the United Kingdom

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No.	Name	POCA Score (%)	Failure preventions
15.	A-Phedrin	50	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.

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Appendix H: Names not likely to be confused due to notable spelling, orthographic and phonetic differences.

No.	Name	POCA Score (%)
1.	Darpaz	58
2.	Epanova	58
3.	Dopa, Dl	57
4.	Epodyl	57
5.	Ed Spaz	56
6.	(b) (4)***	56
7.	Phenadoz	55
8.	Epogam	54
9.	Opana Er	54
10.	Predef	54
11.	Efidac	53
12.	Panase	53
13.	Captan	52
14.	Ethatab	52
15.	Nasatab	52
16.	(b) (4)***	52
17.	Optase	52
18.	Pacaps	52
19.	Paccal	52
20.	Temaz	52
21.	Ipodate	51
22.	(b) (4)***	51
23.	Berdoz	50
24.	C-Tanna 12D	50
25.	(b) (4)***	50
26.	Ed A-Ceph	50
27.	Ephynal	50

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No.	Name	POCA Score (%)
28.	Epimide 50	50
29.	Haponal	50
30.	No Doz	50
31.	Opdivo	50
32.	Opiates	50
33.	Ovaban	50
34.	Pandel	50
35.	Patanol	50
36.	Phenazo	50

Appendix I: Names identified in the eDRLS database not likely to be confused due to notable spelling, orthographic and phonetic differences.

No.	Name
1.	Eliphos

Reference ID: 3894105

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/s/

JAMES H SCHLICK
02/29/2016

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02/29/2016