

**CENTER FOR DRUG EVALUATION AND
RESEARCH**

APPLICATION NUMBER:

207916Orig1s000

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)

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

Date of This Review:	June 22, 2015
Application Type and Number:	NDA 207916
Product Name and Strength:	Cetylev (acetylcysteine) effervescent tablets 500 mg & 2500 mg
Product Type:	Single Ingredient Product
Rx or OTC:	Rx
Applicant/Sponsor Name:	Arbor Pharmaceuticals
Submission Date:	April 1, 2015
Panorama #:	2015-114370
DMEPA Primary Reviewer:	Matthew Barlow, RN, BSN
DMEPA Team Leader:	Kendra Worthy, PharmD

Contents

1	INTRODUCTION.....	1
1.1	Product Information	1
2	RESULTS	1
2.1	Misbranding Assessment.....	1
2.2	Safety Assessment.....	1
3	CONCLUSIONS	3
3.1	Comments to the Applicant.....	3
4	REFERENCES	4
	APPENDICES	5

1 INTRODUCTION

This review evaluates the proposed proprietary name, Cetylev, 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 by [REDACTED]^{(b) (4)}, for this product.

1.1 PRODUCT INFORMATION

The following product information is provided in the April 1, 2015 proprietary name submission.

- Intended Pronunciation: SEE-tuh-lev
- Active Ingredient: Acetylcysteine
- Indication of Use: indicated as an antidote to prevent or lessen hepatic injury, [REDACTED]^{(b) (4)} ingestion of a potentially hepatotoxic quantity of acetaminophen.
- Route of Administration: Oral
- Dosage Form: Effervescent tablet
- Strength: 500 mg & 2500 mg
- Dose and Frequency: Loading dose of 140 mg/kg of body weight, with maintenance doses of 70 mg/kg repeated every 4 hours for a total of 17 doses
- How Supplied: 5 blisters or 10 blisters/carton 2 tablets/blister
- Storage: 20° to 25°C (68° to 77°F). Excursions permitted 15° to 30°C (59° to 86°F).
- Container and Closure Systems: See How Supplied section.

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 Gastroenterology & Inborn Error Products (DGIEP) 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 name¹.

2.2.2 Components of the Proposed Proprietary Name

The Applicant did not provide a derivation or intended meaning for the proposed name, Cetylev 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

54 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. There were several misinterpretations of "-lev" as "-liv," and some misinterpretations of the first letter, "C," as an "S." 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, April 30, 2015 e-mail, the Division of Gastroenterology & Inborn Error Products (DGIEP) 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 $\geq 50\%$ retrieved from our POCA search² organized as highly similar, moderately similar or low similarity for further evaluation. Table 1 also includes names identified from the Rx Study or by (b) (4).

Table 1. POCA Search Results	Number of Names
Highly similar name pair: combined match percentage score $\geq 70\%$	8
Moderately similar name pair: combined match percentage score $\geq 50\%$ to $\leq 69\%$	126
Low similarity name pair: combined match percentage score $\leq 49\%$	13

¹USAN stem search conducted on April 14, 2015.

² POCA search conducted on April 14, 2015.

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

Our analysis of the 147 names contained in Table 1 determined that none of the names will pose a risk for confusion as described in Appendices C through H.

2.2.7 Communication of DMEPA's Analysis at Midpoint of Review

DMEPA communicated our findings to the Division of Gastroenterology & Inborn Error Products (DGIEP) via e-mail on June 10, 2015. At that time we also requested additional information or concerns that could inform our review. Per e-mail correspondence from the DGIEP on June 17, 2015, they stated no additional concerns with the proposed proprietary name, Cetylev.

3 CONCLUSIONS

The proposed proprietary name is acceptable.

If you have further questions or need clarifications, please contact Alek Winiarski, OSE project manager, at 301-796-5295.

3.1 COMMENTS TO THE APPLICANT

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

If any of the proposed product characteristics as stated in your April 1, 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.

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 DNCE. OPDP or DNCE 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 DNCE 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 $\geq 70\%$.
 - Moderately similar pair: combined match percentage score $\geq 50\%$ to $\leq 69\%$.
 - Low similarity: combined match percentage score $\leq 49\%$.

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 $\geq 70\%$).

<u>Orthographic Checklist</u>		<u>Phonetic Checklist</u>	
Y/N	Do the names begin with different first letters? <i>Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.</i>	Y/N	Do the names have different number of syllables?
Y/N	Are the lengths of the names dissimilar* when scripted? <i>*FDA considers the length of names different if the names differ by two or more letters.</i>	Y/N	Do the names have different syllabic stresses?
Y/N	Considering variations in scripting of some letters (such as <i>z</i> and <i>f</i>), 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 as 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 $\geq 50\%$ to $\leq 69\%$).

<p>Step 1</p>	<p>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.</p> <p>For single strength products, also consider circumstances where the strength may not be expressed.</p> <p>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.</p> <p>To determine whether the strengths or doses are similar to your proposed product, consider the following list of factors that may increase confusion:</p> <ul style="list-style-type: none"> ○ 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
<p>Step 2</p>	<p>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.</p>

<p>Orthographic Checklist (Y/N to each question)</p> <ul style="list-style-type: none"> • Do the names begin with different first letters? <p>Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.</p> <ul style="list-style-type: none"> • Are the lengths of the names dissimilar* when scripted? <p>*FDA considers the length of names different if the names differ by two or more letters.</p> <ul style="list-style-type: none"> • Considering variations in scripting of some letters (such as <i>z</i> and <i>f</i>), 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? 	<p>Phonetic Checklist (Y/N to each question)</p> <ul style="list-style-type: none"> • Do the names have different number of syllables? • Do the names have different syllabic stresses? • Do the syllables have different phonologic processes, such as 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 $\leq 49\%$).

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.

Appendix B: Prescription Simulation Samples and Results

Figure 1. Cetylev Study (Conducted on May 15, 2015)

Handwritten Requisition Medication Order	Verbal Prescription
<p><u>Medication</u> <u>Order:</u></p> <p><i>Cetylev 10 grams once on a loading dose</i></p>	<p>Cetylev 2500 mg</p> <p>Take 2 tablets every 4 hours for 17 doses.</p> <p>Disp # 34</p>
<p><u>Outpatient</u> <u>Prescription:</u></p> <p><i>Cetylev 2500 mg</i> <i>Take 2 tablets q4h PRN</i> <i>17 doses</i> <i>Disp. # 34</i></p>	

FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

Study Name: Cetylev

Total	21	20	26	
INTERPRETATION	OUTPATIENT	VOICE	INPATIENT	TOTAL
ACTYLEV	2	0	0	2
ATYLERE	0	0	1	1
ATYLEV	1	0	0	1
ATYLIV	0	0	2	2

ATYLIV 10 GR	0	0	1	1
CETALAZE	0	1	0	1
CETALEV	0	3	0	3
CETALIVE	0	2	0	2
CETALOF	0	1	0	1
CETELEV	0	2	0	2
CETILEV	0	4	0	4
CETOLEV	0	1	0	1
CETYLERA	0	0	1	1
CETYLERE	0	0	2	2
CETYLERO	0	0	1	1
CETYLEV	8	0	10	18
CETYLIO	1	0	0	1
CETYLIV	8	0	2	10
CETYLURE	0	0	1	1
CETYULEV	0	0	1	1
CEYLIV	1	0	0	1
CITELEZ	0	1	0	1
CITYLEV	0	0	1	1
CITYLIO	0	0	1	1
CITYLIV	0	0	1	1
CYTYLERA	0	0	1	1
SEATALEV	0	1	0	1
SEETOLENS	0	1	0	1
SETALEV	0	1	0	1
SETELEV	0	1	0	1
SETILEV	0	1	0	1

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

No.	Proposed name: Cetylev Established name: Acetylcysteine Dosage form: Effervescent Tablets Strength(s): 500 mg & 2500 mg Usual Dose: Loading dose of 140 mg/kg of body weight, with maintenance doses of 70 mg/kg repeated every 4 hours for a total of 17 doses	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.	Cetylev***	100%	This name is the subject of the review.
2.	Stalevo	70%	The first and last syllables of this name pair have sufficient phonetic differences. The infix of this name pair has sufficient orthographic differences. This name will always have a modifier.
3.	Stalevo 50	70%	The first and last syllables of this name pair have sufficient phonetic differences. The infix of this name pair has sufficient orthographic differences.
4.	Stalevo 75	70%	The first and last syllables of this name pair have sufficient phonetic differences. The infix of this name pair has sufficient orthographic differences.
5.	Stalevo 100	70%	The first and last syllables of this name pair have sufficient phonetic differences. The infix of this name pair has sufficient orthographic differences.
6.	Stalevo 125	70%	The first and last syllables of this name pair have sufficient phonetic differences. The infix of this name pair has sufficient orthographic differences.
7.	Stalevo 150	70%	The first and last syllables of this name pair have sufficient phonetic differences.

			The infix of this name pair has sufficient orthographic differences.
8.	Stalevo 200	70%	The first and last syllables of this name pair have sufficient phonetic differences. The infix of this name pair has sufficient orthographic differences.

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

No.	Proposed Name	POCA Score (%)
1.	Cetiri-D	60%
2.	Sotylyze	60%
3.	Cetapred	58%
4.	Cetaderm	57%
5.	Cetaphil	57%
6.	(b) (4)***	55%
7.	Cyclessa	54%
8.	Cetiedil	53%
9.	Certiva	52%
10.	Cetamide	52%
11.	Cinalog	52%
12.	Citrolith	52%
13.	Uni-lev 5.0	51%
14.	Zetacet	51%
15.	Cenafed	50%
16.	Cinolar	50%
17.	Cotellic***	50%

18.	Cresylate	50%
19.	Cylert	50%
20.	Acetasol	50%
21.	Cetirizine	49%
22.	Catapres	46%
23.	Sudafed	38%
24.	Colyte	38%
25.	Colcrys	35%
26.	Levocetirizine	31%
27.	Crestor	28%

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

No.	Proposed name: Cetylev Established name: Acetylcysteine Dosage form: Effervescent Tablets Strength(s): 500 mg & 2500 mg Usual Dose: Loading dose of 140 mg/kg of body weight, with maintenance doses of 70 mg/kg repeated every 4 hours for a total of 17 doses	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.	Fusilev	64%	<p>The first syllable of this name pair has sufficient phonetic differences.</p> <p>The prefix of this name pair has sufficient orthographic differences.</p> <p>This name pair has significant dosing differences: This name's dosing includes 7.5 mg given intravenously every 6 hours, or 75 mg given intravenously every 3 hours followed by 7.5 mg intravenously every 3 hours vs. Cetylev oral dosing which includes a loading dose of 140 mg/kg followed by a maintenance dose of 70 mg/kg every 4 hours for 17 doses.</p>
2.	Ceta Plus	62%	<p>The last syllable of this name pair has sufficient phonetic differences.</p> <p>The infix and suffix of this name pair have sufficient orthographic differences.</p>
3.	Cetafen	60%	<p>The last syllable of this name pair has sufficient phonetic differences.</p> <p>The infix and suffix of this name pair have sufficient orthographic differences.</p>
4.	Ceclor	56%	<p>This name contains fewer syllables.</p> <p>The last syllable of this name pair has sufficient phonetic differences.</p> <p>The infix of this name pair has sufficient orthographic differences.</p>

5.	Sotalol	56%	<p>The first and last syllables of this name pair have sufficient phonetic differences.</p> <p>The infix and suffix of this name pair have sufficient orthographic differences.</p>
6.	Primlev	55%	<p>This name contains fewer syllables.</p> <p>The first syllable of this name pair has sufficient phonetic differences.</p> <p>The prefix and infix of this name pair have sufficient orthographic differences.</p>
7.	Primalev	54%	<p>The first syllable of this name pair has sufficient phonetic differences.</p> <p>The prefix and infix of this name pair have sufficient orthographic differences.</p>
8.	Primalev 300/10	54%	<p>The first syllable of this name pair has sufficient phonetic differences.</p> <p>The prefix and infix of this name pair have sufficient orthographic differences.</p>
9.	Primalev 300/5	54%	<p>The first syllable of this name pair has sufficient phonetic differences.</p> <p>The prefix and infix of this name pair have sufficient orthographic differences.</p>
10.	Primalev 300/2.5	54%	<p>The first syllable of this name pair has sufficient phonetic differences.</p> <p>The prefix and infix of this name pair have sufficient orthographic differences.</p>
11.	Catulac	54%	<p>The first and last syllables of this name pair have sufficient phonetic differences.</p> <p>The infix of this name pair has sufficient orthographic differences.</p>
12.	Cipro I.V.	54%	<p>This name contains fewer syllables.</p> <p>The last syllable of this name pair has sufficient phonetic differences.</p> <p>The infix and suffix of this name pair have sufficient orthographic differences.</p>
13.	Cenolate	52%	<p>The second and third syllables of this name pair have sufficient phonetic differences.</p> <p>The infix and suffix of this name pair have sufficient</p>

			orthographic differences.
14.	Panaleve	52%	The first syllable of this name pair has sufficient phonetic differences. The prefix and infix of this name pair have sufficient orthographic differences.
15.	Santyl	52%	This name contains fewer syllables. The first syllable of this name pair has sufficient phonetic differences. The prefix and suffix of this name pair have sufficient orthographic differences.
16.	Cytadren	51%	The last syllable of this name pair has sufficient phonetic differences. The prefix and infix of this name pair have sufficient orthographic differences.
17.	Cataflam	51%	The first and last syllables of this name pair have sufficient phonetic differences. The infix and suffix of this name pair have sufficient orthographic differences.
18.	Cefzil	50%	This name contains fewer syllables. The last syllable of this name pair has sufficient phonetic differences. The infix and suffix of this name pair have sufficient orthographic differences.
19.	Ceptaz	50%	This name contains fewer syllables. The first and last syllables of this name pair have sufficient phonetic differences. The infix and suffix of this name pair have sufficient orthographic differences.
20.	Cevi-Bid	50%	The last syllable of this name pair has sufficient phonetic differences. The infix and suffix of this name pair have sufficient orthographic differences.
21.	Cytamen	50%	The first and last syllables of this name pair have sufficient phonetic differences. The infix and suffix of this name pair have sufficient orthographic differences.
22.	Bretylate	50%	The first and last syllables of this name pair have

			<p>sufficient phonetic differences.</p> <p>The suffix of this name pair has sufficient orthographic differences.</p>
23.	Cefaclor	48%	<p>The last syllable of this name pair has sufficient phonetic differences.</p> <p>The infix of this name pair has sufficient orthographic differences.</p>
24.	Ceftin	44%	<p>This name contains fewer syllables.</p> <p>The first and last syllables of this name pair have sufficient phonetic differences.</p> <p>The infix of this name pair has sufficient orthographic differences.</p>
25.	Cerebyx	40%	<p>The first and last syllables of this name pair have sufficient phonetic differences.</p> <p>The infix and suffix of this name pair have sufficient orthographic differences.</p>
26.	Cartia	34%	<p>This name contains fewer syllables.</p> <p>The first and last syllables of this name pair have sufficient phonetic differences.</p> <p>The infix and suffix of this name pair have sufficient orthographic differences.</p>
27.	Acetaminophen	32%	<p>This name contains more syllables.</p> <p>The last syllable of this name pair has sufficient phonetic differences.</p> <p>The infix of this name pair has sufficient orthographic differences.</p>
28.	Vedolizumab	30%	<p>This name contains more syllables.</p> <p>The second and last syllables of this name pair have sufficient phonetic differences.</p> <p>The infix and suffix of this name pair have sufficient orthographic differences.</p>

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

No.	Name	POCA Score (%)
1.	N/A	

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.	Acetylene	64%	Product is not a drug. It is a chemical compound used in welding.
2.	Cetavlex	63%	International product formerly marketed in several foreign countries.
3.	Centyl	62%	International product marketed in Europe.
4.	Carbilev	60%	Product withdrawn FR effective in 2009. No generics available with this formulation.
5.	Phenol EZ	60%	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
6.	Catalase	58%	Product is not a drug. It is an enzyme that catalyzes the reduction of hydrogen peroxide.
7.	Cephalon	57%	This is not a drug or product. This is the name of a company.
8.	Citral	57%	Product is not a drug. It is a pair or mixture of terpenoids

			present in essential oils of plants and used for perfumes and flavorings.
9.	Celevac	56%	International product marketed in Ireland and the United Kingdom.
10.	Ceteth-10	56%	Product is not a drug. It is a polyethylene glycol ether of Cetyl Alcohol and an emulsifying agent.
11.	Ceteth-16	56%	Product is not a drug. It is a polyethylene glycol ether of Cetyl Alcohol and an emulsifying agent.
12.	Ceteth-2	56%	Product is not a drug. It is a polyethylene glycol ether of Cetyl Alcohol and an emulsifying agent.
13.	Ceteth-20	56%	Product is not a drug. It is a polyethylene glycol ether of Cetyl Alcohol and an emulsifying agent.
14.	Ceteth-23	56%	Product is not a drug. It is a polyethylene glycol ether of Cetyl Alcohol and an emulsifying agent.
15.	Ceteth-24	56%	Product is not a drug. It is a polyethylene glycol ether of Cetyl Alcohol and an emulsifying agent.
16.	Ceteth-25	56%	Product is not a drug. It is a polyethylene glycol ether of Cetyl Alcohol and an emulsifying agent.
17.	Ceteth-7	56%	Product is not a drug. It is a polyethylene glycol ether of Cetyl Alcohol and an emulsifying agent.
18.	Acetate	54%	Product is not a drug. It is a salt or ester of acetic acid.
19.	Cefadyl	54%	Product withdrawn in 1990.

20.	Ceftiflex	54%	Veterinary product.
21.	Cephulac	54%	Product withdrawn from the market for commercial reasons.
22.	Cetazone	54%	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
23.	Cetyl Oleate	54%	Product is not a drug. This is the ester of cetyl alcohol and oleic acid.
24.	Citiolone	54%	Research drug for hepatitis, not a proprietary/established/proper name for any drug product.
25.	Citrate	54%	Product is not a drug. It is a derivative of citric acid.
26.	Co-Lav	54%	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
27.	Cetareth-20	53%	Product is not a drug. It is an emollient emulsifier.
28.	Cetareth-8	53%	Product is not a drug. It is an emollient emulsifier.
29.	Cetareth-10	53%	Product is not a drug. It is an emollient emulsifier.
30.	Cetareth-12	53%	Product is not a drug. It is an emollient emulsifier.
31.	Cetareth-15	53%	Product is not a drug. It is an emollient emulsifier.
32.	Cetareth-2	53%	Product is not a drug. It is an emollient emulsifier.
33.	Cetareth-22	53%	Product is not a drug. It is an emollient emulsifier.
34.	Cetareth-25	53%	Product is not a drug. It is an emollient emulsifier.

35.	Cetareth-30	53%	Product is not a drug. It is an emollient emulsifier.
36.	Cetareth-33	53%	Product is not a drug. It is an emollient emulsifier.
37.	Cetareth-6	53%	Product is not a drug. It is an emollient emulsifier.
38.	Citra pH	52%	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
39.	Citravet	52%	Veterinary product.
40.	Bretylol	52%	Product withdrawn FR effective in 1999.
41.	Cetyl Lactate	51%	Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases.
42.	Acetone	50%	Product is not a drug. This is a solvent found in nail polish remover.
43.	PPG-10 Cetyl Ether	50%	Product is not a drug. This is a polypropylene glycol ether of cetyl alcohol and emollient.

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

No.	Name	POCA Score (%)
1.	SEB-PREV	61
2.	KETALAR	60
3.	PHENOL EZ	60

4.	KETAVED	58
5.	VETALAR	58
6.	SECREVU	57
7.	SEBULEX	56
8.	SEDIVET	55
9.	BETALIN 12	54
10.	PHENYL-T	54
11.	SIGTOLER	54
12.	SITAVIG	54
13.	SKELEX	54
14.	TYCOLET	54
15.	JET-ALERT	53
16.	SEBULON	53
17.	EXLOV	52
18.	KEFLET	52
19.	KEFLEX	52
20.	KETASET	52
21.	PETREM	52
22.	STAFLEX	52
23.	TI-PLEX	52
24.	BETALOC	51
25.	FLAGYL I.V.	51
26.	STYRENE	51
27.	BENYLIN	50
28.	KEEP ALERT	50
29.	KETAFLO	50
30.	PETROLA	50
31.	PEXEVA	50
32.	PHENYLBUTE	50
33.	SATIVEX	50
34.	SECTRAL	50

35.	SEDALMEX	50
36.	SEFELSA	50
37.	SENNALAX	50
38.	SENNALAX	50
39.	SERPALAN	50
40.	SITREX	50
41.	STEMETIL EFF	50

This is a representation of an electronic record that was signed electronically and this page is the manifestation of the electronic signature.

/s/

MATTHEW J BARLOW
06/22/2015

KENDRA C WORTHY
06/22/2015

LUBNA A MERCHANT
06/22/2015