

**CENTER FOR DRUG EVALUATION AND
RESEARCH**

APPLICATION NUMBER:

204819Orig1s000

PROPRIETARY NAME REVIEW(S)

**Department of Health and Human Services
Public Health Service
Food and Drug Administration
Center for Drug Evaluation and Research
Office of Surveillance and Epidemiology
Office of Medication Error Prevention and Risk Management**

Proprietary Name Review—Final

Date: August 7, 2013

Reviewer: Kimberly DeFronzo, RPh, MS, MBA
Division of Medication Error Prevention and Analysis

Team Leader: Irene Z. Chan, PharmD, BCPS
Division of Medication Error Prevention and Analysis

Drug Name and Strength (s): Adempas (Riociguat) Tablets
0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg

Application Type/Number: NDA 204819

Sponsor: Bayer Healthcare Pharmaceuticals

OSE RCM #: 2013-1468

*** This document contains proprietary and confidential information that should not be released to the public.***

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1 INTRODUCTION

This re-assessment of the proposed proprietary name, Adempas, is written in response to the anticipated approval of this NDA within 90 days from the date of this review. DMEPA found the proposed name, Adempas, acceptable in OSE Review RCM #2013-471 dated May 8, 2013.

2 METHODS AND DISCUSSION

For re-assessments of proposed proprietary names, DMEPA searches a standard set of databases and information sources (see section 4) to identify names with orthographic and phonetic similarity to the proposed name that have been approved since the previous OSE proprietary name review. For this review we used the same search criteria described in OSE Review RCM #2013-471. We note that none of the proposed product characteristics were altered. However, we evaluated the previously identified names of concern considering any lessons learned from recent post-marketing experience, which may have altered our previous conclusion regarding the acceptability of the proposed proprietary name. The searches of the databases yielded no new names, thought to look or sound similar to Adempas and represent a potential source of drug name confusion.

Additionally, DMEPA searched the USAN stem list to determine if the name contains any USAN stems as of the last USAN updates. The Safety Evaluator did not identify any United States Adopted Names (USAN) stems in the proposed proprietary name, as of August 1, 2013.

3 CONCLUSIONS

The re-evaluation of the proposed proprietary name, Adempas, did not identify any vulnerability that would result in medication errors. Thus, DMEPA has no objection to the proprietary name, Adempas, for this product at this time.

DMEPA considers this a final review; however, if approval of the NDA is delayed beyond 90 days from the date of this review, the Division of Cardiovascular Renal Products (DCRP) should notify DMEPA because the proprietary name must be re-reviewed prior to the new approval date.

If you have further questions or need clarifications, please contact Karen Bengtson, OSE project manager, at 301-796-3338.

4 REFERENCES

1. *OSE Review RCM #2013-471 dated May 8, 2013, Kimberly DeFronzo, RPh, MS, MBA*
2. *Drugs@FDA* (<http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm>)
Drugs@FDA contains most of the drug products approved 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](#), [generic drugs](#), [therapeutic biological products](#), [prescription](#) and [over-the-counter](#) human drugs and [discontinued drugs](#) and “[Chemical Type 6](#)” approvals.
3. *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.
4. *Division of Medication Error Prevention and Analysis Proprietary Name Consultation Request*
Compiled list of proposed proprietary names submitted to the Division of Medication Error Prevention and Analysis for review. The list is generated on a weekly basis from the Access database/tracking system.

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

/s/

IRENE Z CHAN on behalf of KIMBERLY A DE FRONZO
08/07/2013

IRENE Z CHAN
08/07/2013

**Department of Health and Human Services
Public Health Service
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Date: May 8, 2013

Reviewer: Kimberly DeFronzo, RPh, MS, MBA
Division of Medication Error Prevention and Analysis

Team Leader: Irene Z. Chan, PharmD, BCPS
Division of Medication Error Prevention and Analysis

Division Director: Carol Holquist, RPh
Division of Medication Error Prevention and Analysis

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1 INTRODUCTION

This review evaluates the proposed proprietary name, Adempas, from a safety and promotional perspective. The sources and methods used to evaluate the proposed name are outlined in the reference section and Appendix A respectively.

1.1 REGULATORY HISTORY AND BACKGROUND

Riociguat (BAY 63-2521) is a new molecular entity (NME) seeking approval for the indications of treating chronic thromboembolic pulmonary hypertension (CTEPH Group 4) and pulmonary arterial hypertension (PAH Group 1). Although there are several FDA-approved products to treat PAH, there are currently no drugs FDA-approved to treat CTEPH.

On June 15, 2012, Bayer Healthcare Pharmaceuticals submitted a request for Proprietary Name Review for this product under IND 75,629 for the primary name (b) (4) and alternate name Adempas. The name (b) (4) was found to be unacceptable due to

(b) (4)
(b) (4) On January 31, 2013, Bayer submitted a withdrawal for the name (b) (4)

On February 8, 2013, Bayer submitted a New Drug Application (NDA #204819) which is receiving Priority Review under “The Program” due to the CTEPH indication. Bayer also submitted a new proprietary name request for the alternate name, Adempas, under the new NDA #204819 on February 8, 2013, which is the subject of this review.

1.2 PRODUCT INFORMATION

The following product information is provided in the Request for Proprietary Name Review dated February 8, 2013.

- Active Ingredient: Riociguat
- Indication of Use: Treatment of:
 - Persistent/recurrent Chronic Thromboembolic Pulmonary Hypertension (CTEPH) (WHO Group 4) after surgical treatment or inoperable CTEPH to improve exercise capacity and WHO functional class.
 - Pulmonary Arterial Hypertension (PAH) (WHO Group 1) to improve exercise capacity, improve WHO functional class and to delay clinical worsening.
- Route of Administration: Oral
- Dosage Form: Tablets
- Strength: 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg
- Dose and Frequency: Initiate treatment at 1 mg taken 3 times daily (TID) at 6 to 8 hours apart with or without food. Increase or decrease dosage by 0.5 mg increments in approximately 2-week intervals according to the titration guidance.

Maintain at the maximum tolerated dose. The maximum daily dose is 2.5 mg TID. Dose reduction can be considered at any time.

- How Supplied: Riociguat tablets are available in the following strengths:
 - 0.5 mg-film-coated, round, biconvex, white tablets debossed with the “BAYER” cross on one side and “0.5” and “R” on the other side
 - 1 mg-film-coated, round, biconvex, pale yellow tablets debossed with the “BAYER” cross on one side and “1” and “R” on the other side
 - 1.5 mg-film-coated, round, biconvex, yellow-orange tablets debossed with the “BAYER” cross on one side and “1.5” and “R” on the other side
 - 2 mg-film-coated, round, biconvex, pale orange tablets debossed with the “BAYER” cross on one side and “2” and “R” on the other side
 - 2.5 mg-film-coated, round, biconvex, red orange tablets debossed with the “BAYER” cross on one side and “2.5” and “R” on the other side

Riociguat tablets are supplied in bottles of 90 tablets and in blister packages containing 42 tablets in the following configurations:

Strength	Bottles of 90 Tablets	Carded Blisters of 42 Tablets
0.5 mg	NDC 50419-250-01	NDC 50419-250-03
1 mg	NDC 50419-251-01	NDC 50419-251-03
1.5 mg	NDC 50419-252-01	NDC 50419-252-03
2 mg	NDC 50419-253-01	NDC 50419-253-03
2.5 mg	NDC 50419-254-01	NDC 50419-254-03

- Storage: Store at 25°C (77°F); excursions are permitted from 15 to 30°C (59 to 86°F) [see USP Controlled Room Temperature].
- Container and Closure Systems: The product will be packaged in 45 mL HDPE white opaque bottles closed with screw cap (b) (4) white (b) (4) with (b) (4) sealing insert.

2. RESULTS

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

2.1 PROMOTIONAL ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined the proposed name is acceptable from a promotional perspective. DMEPA and the Division of Cardiovascular

Renal Products concurred with the findings of OPDP's promotional 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

The February 21, 2013 search of the United States Adopted Name (USAN) stems did not identify that a USAN stem is present in the proposed proprietary name.

2.2.2 Components of the Proposed Proprietary Name

The Sponsor indicated in their submission that the proposed name, Adempas, is an invented word without any special meaning. 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

Seventy-nine practitioners participated in DMEPA's prescription studies. The interpretations did not overlap with, appear or sound similar to any currently marketed products or products under development. A total of 6 participants (n=27) in the Inpatient study group correctly identified the name as "Adempas" while 28 participants (n=32) in the Outpatient study group correctly identified the name as "Adempas". However, only 2 of the 20 participants in the Voice (verbal) study group correctly identified the name as "Adempas".

The misinterpretations in the written study group included misinterpreting the letter 'm' for 'n' or the vowel 'a' for the other vowel letters 'e, i, u, o'. The misinterpretations in the verbal study group included misinterpreting the 'p' as a 't', 'b', or 'f' or the sound from the vowel 'a' for a vowel sound of 'e, i, u, o'. See Appendix C for the complete listing of interpretations from the verbal and written prescription studies.

2.2.4 Comments from Other Review Disciplines

In response to the OSE March 13, 2013 e-mail, the Division of Cardiovascular Renal Products (DCRP) did not forward any comments or concerns relating to the proposed name at the initial phase of the proprietary name review.

2.2.5 Failure Mode and Effects Analysis of Similar Names

Appendix B lists possible orthographic and phonetic misinterpretations of the letters appearing in the proposed proprietary name, Adempas. Table 1 lists the names with orthographic, phonetic, or spelling similarity to the proposed proprietary name, Adempas, identified by the primary reviewer, the Expert Panel Discussion (EPD), and other review disciplines. Table 1 also includes the names identified in an external study by the (b) (4) not identified by DMEPA, which require further evaluation.

Table 1: Collective List of Potentially Similar Names (DMEPA, EPD, Other Disciplines, FDA Name Simulation Studies, and External Name Study)

Look Similar (n=8)					
<i>Name</i>	<i>Source</i>	<i>Name</i>	<i>Source</i>	<i>Name</i>	<i>Source</i>
Adagen	FDA	Adeno-Jec	FDA	Ciclopirox	FDA
Adiptam	FDA	Azepan	FDA	Adenosine	External
Atarax	External	Sinequan	External		
Sound Similar (n=4)					
Compazine	External	Attenuvax	External		
Adalat	External	Pristiq	External		
Look and Sound Similar (n=12)					
Adempas	FDA	Salonpas	FDA, External	Adipex-P	FDA, External
Adapin	FDA, External	Adenocard	External	Urispas	External
Adipost	External	Allerx	External	Anaspaz	External
Aceta-gesic	External	Adderall	External	Zenpep	External

Our analysis of the 24 names contained in Table 1 considered the information obtained in the previous sections along with their product characteristics. We determined all 24 names will not pose a risk for confusion as described in Appendices D through E.

2.2.6 Communication of DMEPA's Final Decision to Other Disciplines

DMEPA communicated our findings to the Division of Cardiovascular and Renal Products via e-mail on April 11, 2013. At that time we also requested additional information or concerns that could inform our review. Per e-mail correspondence from the Division of Cardiovascular and Renal Products on April 17, 2013, they stated no additional concerns with the proposed proprietary name, Adempas.

3 CONCLUSIONS

The proposed proprietary name is acceptable from both a promotional and safety perspective.

If you have further questions or need clarifications, please contact Cheryle Milburn, OSE project manager, at 301-796-2084.

3.1 COMMENTS TO THE APPLICANT

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

The proposed proprietary name must be re-reviewed 90 days prior to approval of the NDA. The results are subject to change. If any of the proposed product characteristics as stated in your February 8, 2013 submission are altered, the name must be resubmitted for review.

4 REFERENCES

1. ***Micromedex Integrated Index (<http://csi.micromedex.com>)***

Micromedex contains a variety of databases covering pharmacology, therapeutics, toxicology and diagnostics.

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

POCA is a database which was created for the Division of Medication Error Prevention and Analysis, FDA. As part of the name similarity assessment, proposed names are evaluated via a phonetic/orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists which operates in a similar fashion.

3. ***Drug Facts and Comparisons, online version, St. Louis, MO (<http://factsandcomparisons.com>)***

Drug Facts and Comparisons is a compendium organized by therapeutic course; it contains monographs on prescription and OTC drugs, with charts comparing similar products. This database also lists the orphan drugs.

4. ***FDA Document Archiving, Reporting & Regulatory Tracking System [DARRTS]***

DARRTS is a government database used to organize Applicant and Sponsor submissions as well as to store and organize assignments, reviews, and communications from the review divisions.

5. ***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.

6. ***Drugs@FDA (<http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm>)***

Drugs@FDA contains most of the drug products approved 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, generic drugs, therapeutic biological products, prescription and over-the-counter human drugs and discontinued drugs and “Chemical Type 6” approvals.

7. ***U.S. Patent and Trademark Office (<http://www.uspto.gov>)***

USPTO provides information regarding patent and trademarks.

8. ***Clinical Pharmacology Online (www.clinicalpharmacology-ip.com)***

Clinical Pharmacology contains full monographs for the most common drugs in clinical use, plus mini monographs covering investigational, less common,

combination, nutraceutical and nutritional products. It also provides a keyword search engine.

9. *Data provided by Thomson & Thomson's SAEGIS™ Online Service, available at (www.thomson-thomson.com)*

The Pharma In-Use Search database contains over 400,000 unique pharmaceutical trademarks and trade names that are used in about 50 countries worldwide. The data is provided under license by IMS HEALTH.

10. *Natural Medicines Comprehensive Databases (www.naturaldatabase.com)*

Natural Medicines contains up-to-date clinical data on the natural medicines, herbal medicines, and dietary supplements used in the western world.

11. *Access Medicine (www.accessmedicine.com)*

Access Medicine® from McGraw-Hill contains full-text information from approximately 60 titles; it includes tables and references. Among the titles are: Harrison's Principles of Internal Medicine, Basic & Clinical Pharmacology, and Goodman and Gilman's The Pharmacologic Basis of Therapeutics.

12. *USAN Stems (<http://www.ama-assn.org/ama/pub/about-ama/our-people/coalitions-consortiums/united-states-adopted-names-council/naming-guidelines/approved-stems.shtml>)*

USAN Stems List contains all the recognized USAN stems.

13. *Red Book (www.thomsonhc.com/home/dispatch)*

Red Book contains prices and product information for prescription, over-the-counter drugs, medical devices, and accessories.

14. *Lexi-Comp (www.lexi.com)*

Lexi-Comp is a web-based searchable version of the Drug Information Handbook.

15. *Medical Abbreviations (www.medilexicon.com)*

Medical Abbreviations dictionary contains commonly used medical abbreviations and their definitions.

16. *CVS/Pharmacy (www.CVS.com)*

This database contains commonly used over the counter products not usually identified in other databases.

17. *Walgreens (www.walgreens.com)*

This database contains commonly used over the counter products not usually identified in other databases.

18. *Rx List* (www.rxlist.com)

RxList is an online medical resource dedicated to offering detailed and current pharmaceutical information on brand and generic drugs.

19. *Dogpile* (www.dogpile.com)

Dogpile is a Metasearch engine that searches multiple search engines including Google, Yahoo! and Bing, and returns the most relevant results to the search.

20. *Natural Standard* (<http://www.naturalstandard.com>)

Natural Standard is a resource that aggregates and synthesizes data on complementary and alternative medicine.

APPENDICES

Appendix A

FDA's Proprietary Name Risk Assessment considers the promotional and safety aspects of a proposed proprietary name. The promotional review of the proposed name is conducted by OPDP. OPDP evaluates proposed proprietary names to determine if they are overly fanciful, so as to misleadingly imply unique effectiveness or composition, as well as to assess whether they contribute to overstatement of product efficacy, minimization of risk, broadening of product indications, or making of unsubstantiated superiority claims. OPDP provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.

The safety assessment is conducted by DMEPA. DMEPA staff search a standard set of databases and information sources to identify names that are similar in pronunciation, spelling, and orthographically similar when scripted to the proposed proprietary name. Additionally, 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.). 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.¹

Following the preliminary screening of the proposed proprietary name, DMEPA gathers to discuss their professional opinions on the safety of the proposed proprietary name. This meeting is commonly referred to the Center for Drug Evaluation and Research (CDER) Expert Panel discussion. DMEPA also considers other aspects of the name that may be misleading from a safety perspective. DMEPA staff conducts a prescription simulation studies using FDA health care professionals. 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. DMEPA bases the overall risk assessment on the findings of a Failure Mode and Effects Analysis (FMEA) of the proprietary name and misleading nature of the proposed proprietary name with a focus on the avoidance of medication errors.

DMEPA uses the clinical expertise of its staff to anticipate the conditions of the clinical setting where the product is likely to be used based on the characteristics of the proposed product. DMEPA considers the product characteristics associated with the proposed product throughout the risk assessment because the product characteristics of the

¹ National Coordinating Council for Medication Error Reporting and Prevention.
<http://www.nccmerp.org/aboutMedErrors.html>. Last accessed 10/11/2007.

proposed may provide a context for communication of the drug name and ultimately determine the use of the product in the *usual* clinical practice setting.

Typical product characteristics considered when identifying drug names that could potentially be confused with the proposed proprietary name include, but are not limited to; established name of the proposed product, proposed indication of use, dosage form, route of administration, strength, unit of measure, dosage units, recommended dose, typical quantity or volume, frequency of administration, product packaging, storage conditions, patient population, and prescriber population. DMEPA considers how these product characteristics may or may not be present in communicating a product name throughout the medication use system. Because drug name confusion can occur at any point in the medication use process, DMEPA considers the potential for confusion throughout the entire U.S. medication use process, including drug procurement, prescribing and ordering, dispensing, administration, and monitoring the impact of the medication.²

The DMEPA considers the spelling of the name, pronunciation of the name when spoken, and appearance of the name when scripted. DMEPA compares the proposed proprietary name with the proprietary and established name of existing and proposed drug products and names currently under review at the FDA. DMEPA compares the pronunciation of the proposed proprietary name with the pronunciation of other drug names because verbal communication of medication names is common in clinical settings. DMEPA examines the phonetic similarity using patterns of speech. If provided, DMEPA will consider the Sponsor's intended pronunciation of the proprietary name. However, DMEPA also considers a variety of pronunciations that could occur in the English language because the Sponsor has little control over how the name will be spoken in clinical practice. The orthographic appearance of the proposed name is evaluated using a number of different handwriting samples. DMEPA applies expertise gained from root-cause analysis of postmarketing medication errors to identify sources of ambiguity within the name that could be introduced when scripting (e.g., "T" may look like "F," lower case 'a' looks like a lower case 'u,' etc.). Additionally, other orthographic attributes that determine the overall appearance of the drug name when scripted (see Table 1 below for details).

² Institute of Medicine. Preventing Medication Errors. The National Academies Press: Washington DC. 2006.

Table 1. Criteria Used to Identify Drug Names that Look- or Sound-Similar to a Proposed Proprietary Name.

Type of Similarity	Considerations when Searching the Databases		
	<i>Potential Causes of Drug Name Similarity</i>	<i>Attributes Examined to Identify Similar Drug Names</i>	<i>Potential Effects</i>
Look-alike	Similar spelling	Identical prefix Identical infix Identical suffix Length of the name Overlapping product characteristics	<ul style="list-style-type: none"> Names may appear similar in print or electronic media and lead to drug name confusion in printed or electronic communication Names may look similar when scripted and lead to drug name confusion in written communication
	Orthographic similarity	Similar spelling Length of the name/Similar shape Upstrokes Down strokes Cross-strokes Dotted letters Ambiguity introduced by scripting letters Overlapping product characteristics	<ul style="list-style-type: none"> Names may look similar when scripted, and lead to drug name confusion in written communication
Sound-alike	Phonetic similarity	Identical prefix Identical infix Identical suffix Number of syllables Stresses Placement of vowel sounds Placement of consonant sounds Overlapping product characteristics	<ul style="list-style-type: none"> Names may sound similar when pronounced and lead to drug name confusion in verbal communication

Lastly, DMEPA considers the potential for the proposed proprietary name to inadvertently function as a source of error for reasons other than name confusion. Post-marketing experience has demonstrated that proprietary names (or components of the proprietary name) can be a source of error in a variety of ways. Consequently, DMEPA considers and evaluates these broader safety implications of the name throughout this assessment and the medication error staff provides additional comments related to the

safety of the proposed proprietary name or product based on professional experience with medication errors.

1. Database and Information Sources

DMEPA searches the internet, several standard published drug product reference texts, and FDA databases to identify existing and proposed drug names that may sound-alike or look-alike to the proposed proprietary name. A standard description of the databases used in the searches is provided in the reference section of this review. To complement the process, the DMEPA uses a computerized method of identifying phonetic and orthographic similarity between medication names. The program, Phonetic and Orthographic Computer Analysis (POCA), uses complex algorithms to select a list of names from a database that have some similarity (phonetic, orthographic, or both) to the trademark being evaluated. Lastly, DMEPA reviews the USAN stem list to determine if any USAN stems are present within the proprietary name. The individual findings of multiple safety evaluators are pooled and presented to the CDER Expert Panel. DMEPA also evaluates if there are characteristics included in the composition that may render the name unacceptable from a safety perspective (abbreviation, dosing interval, etc.).

2. Expert Panel Discussion

DMEPA gathers CDER professional opinions on the safety of the proposed product and discussed the proposed proprietary name (Expert Panel Discussion). The Expert Panel is composed of Division of Medication Errors Prevention (DMEPA) staff and representatives from the Office of Prescription Drug Promotion (OPDP). We also consider input from other review disciplines (OND, ONDQA/OBP). The Expert Panel also discusses potential concerns regarding drug marketing and promotion related to the proposed names.

The primary Safety Evaluator presents the pooled results of the database and information searches to the Expert Panel for consideration. Based on the clinical and professional experiences of the Expert Panel members, the Panel may recommend additional names, additional searches by the primary Safety Evaluator to supplement the pooled results, or general advice to consider when reviewing the proposed proprietary name.

3. FDA Prescription Simulation Studies

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.

4. 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.

5. Safety Evaluator Risk Assessment of the Proposed Proprietary Name

The primary Safety Evaluator applies his/her individual expertise gained from evaluating medication errors reported to FDA, considers all aspects of the name that may be misleading or confusing, conducts a Failure Mode and Effects Analysis, and provides an overall decision on acceptability dependent on their risk assessment of name confusion. Failure Mode and Effects Analysis (FMEA) is a systematic tool for evaluating a process and identifying where and how it might fail.³ When applying FMEA to assess the risk of a proposed proprietary name, DMEPA seeks to evaluate the potential for a proposed proprietary name to be confused with another drug name because of name confusion and, thereby, cause errors to occur in the medication use system. FMEA capitalizes on the predictable and preventable nature of medication errors associated with drug name confusion. FMEA allows the Agency to identify the potential for medication errors due to orthographically or phonetically similar drug names prior to approval, where actions to overcome these issues are easier and more effective than remedies available in the post-approval phase.

In order to perform an FMEA of the proposed name, the primary Safety Evaluator must analyze the use of the product at all points in the medication use system. Because the proposed product is has not been marketed, the primary Safety Evaluator anticipates the use of the product in the usual practice settings by considering the clinical and product

³ Institute for Healthcare Improvement (IHI). Failure Mode and Effects Analysis. Boston. IHI:2004.

characteristics listed in Section 1.2 of this review. The Safety Evaluator then analyzes the proposed proprietary name in the context of the usual practice setting and works to identify potential failure modes and the effects associated with the failure modes.

In the initial stage of the Risk Assessment, the Safety Evaluator compares the proposed proprietary name to all of the names gathered from the above searches, Expert Panel Discussion, and prescription studies, external studies, and identifies potential failure modes by asking:

“Is the proposed proprietary name convincingly similar to another drug name, which may cause practitioners to become confused at any point in the usual practice setting? And are there any components of the name that may function as a source of error beyond sound/look-alike?”

An affirmative answer indicates a failure mode and represents a potential for the proposed proprietary name to be confused with another proprietary or established drug name because of look- or sound-alike similarity or because of some other component of the name. If the answer to the question is no, the Safety Evaluator is not convinced that the names possess similarity that would cause confusion at any point in the medication use system, thus the name is eliminated from further review.

In the second stage of the Risk Assessment, the primary Safety Evaluator evaluates all potential failure modes to determine the likely *effect* of the drug name confusion, by asking:

“Could the confusion of the drug names conceivably result in medication errors in the usual practice setting?”

The answer to this question is a central component of the Safety Evaluator’s overall risk assessment of the proprietary name. If the Safety Evaluator determines through FMEA that the name similarity would not ultimately be a source of medication errors in the usual practice setting, the primary Safety Evaluator eliminates the name from further analysis. However, if the Safety Evaluator determines through FMEA that the name similarity could ultimately cause medication errors in the usual practice setting, the Safety Evaluator will then recommend the use of an alternate proprietary name.

Moreover, DMEPA will object to the use of proposed proprietary name when the primary Safety Evaluator identifies one or more of the following conditions in the Overall Risk Assessment:

- a. OPDP finds the proposed proprietary name misleading from a promotional perspective, and the Review Division concurs with OPDP’s findings. The Federal Food, Drug, and Cosmetic Act provides that labeling or advertising can misbrand a product if misleading representations are made or suggested by statement, word, design, device, or any combination thereof, whether through a PROPRIETARY name or otherwise [21 U.S.C 321(n); See also 21 U.S.C. 352(a) & (n)].
- b. DMEPA identifies that the proposed proprietary name is misleading because of similarity in spelling or pronunciation to another proprietary or established name of a different drug or ingredient [CFR 201.10.(C)(5)].

- c. FMEA identifies the potential for confusion between the proposed proprietary name and other proprietary or established drug name(s), and demonstrates that medication errors are likely to result from the drug name confusion under the conditions of usual clinical practice.
- d. The proposed proprietary name contains an USAN (United States Adopted Names) stem.
- e. DMEPA identifies a potential source of medication error within the proposed proprietary name. For example, the proprietary name may be misleading or, inadvertently, introduce ambiguity and confusion that leads to errors. Such errors may not necessarily involve confusion between the proposed drug and another drug product but involve a naming characteristic that when incorporated into a proprietary name may be confusing, misleading, cause or contribute to medication errors.

If DMEPA objects to a proposed proprietary name on the basis that drug name confusion could lead to medication errors, the primary Safety Evaluator uses the FMEA process to identify strategies to reduce the risk of medication errors. DMEPA generally recommends that the Sponsor select an alternative proprietary name and submit the alternate name to the Agency for review. However, in rare instances FMEA may identify plausible strategies that could reduce the risk of medication error of the currently proposed name. In that instance, DMEPA may be able to provide the Sponsor with recommendations that reduce or eliminate the potential for error and, thereby, would render the proposed name acceptable.

In the event that DMEPA objects to the use of the proposed proprietary name, based upon the potential for confusion with another proposed (but not yet approved) proprietary name, DMEPA will provide a contingency objection based on the date of approval. Whichever product, the Agency approves first has the right to use the proprietary name, while DMEPA will recommend that the second product to reach approval seek an alternative name.

The threshold set for objection to the proposed proprietary name may seem low to the Applicant/Sponsor. However, the safety concerns set forth in criteria a through e above are supported either by FDA regulation or by external healthcare authorities, including the Institute of Medicine (IOM), World Health Organization (WHO), the Joint Commission, and the Institute for Safe Medication Practices (ISMP). These organizations have examined medication errors resulting from look- or sound-alike drug names, confusing, or misleading names and called for regulatory authorities to address the issue prior to approval. Additionally, DMEPA contends that the threshold set for the Proprietary Name Risk Assessment is reasonable because proprietary drug name confusion is a predictable and preventable source of medication error that, in many instances, the Agency and/or Sponsor can identify and rectify prior to approval to avoid patient harm.

Furthermore, post-marketing experience has demonstrated that medication errors resulting from drug name confusion are notoriously difficult to rectify post-approval. Educational and other post-approval efforts are low-leverage strategies that have had limited effectiveness at alleviating medication errors involving drug name confusion. Sponsors have undertaken higher-leverage strategies, such as drug name changes, in the

past but at great financial cost to the Sponsor and at the expense of the public welfare, not to mention the Agency’s credibility as the authority responsible for approving the error-prone proprietary name. Moreover, even after Sponsors’ have changed a product’s proprietary name in the post-approval phase, it is difficult to eradicate the original proprietary name from practitioners’ vocabulary, and as a result, the Agency has continued to receive reports of drug name confusion long after a name change in some instances. Therefore, DMEPA believes that post-approval efforts at reducing name confusion errors should be reserved for those cases in which the potential for name confusion could not be predicted prior to approval.

Appendix B: Letters with Possible Orthographic or Phonetic Misinterpretation

Letters in Name, Adempas	Scripted May Appear as	Spoken May Be Interpreted as
Uppercase ‘A’	Ce, Ci, Fl, H, S, O, D, G	Any vowel
lowercase ‘a’	el, ci, ce, cr, cl, d, o, u	Any vowel
lowercase ‘d’	cl, ci, ol, oi, l, el, al, rt, rl	t, b, p
lowercase ‘e’	i, o, u, a, l, p, c	Any vowel
lowercase ‘m’	n, m, v, w, ss, z, onc	n, u, v, w
lowercase ‘p’	g, j, q, yn, y, ys, jo, ja, x, z	b, t, d
lowercase ‘s’	G, g, n, r, 5, a, x, z	c, x, z
Letter strings		
Ad	Oul, Cid, Ark, Arl, Art, Ach	Ed
dem	olun, olur, deno, ikem, rkem, rken, rlem, rtem, rten	dam, dan, dapt, den
pas	gor, gos, jor, jos, por, pos	pass, pes, pez, pess, pis, piss, pase, ness, bis, pus, tess, fis, tis, tus
demp		vent

Appendix C: Prescription Simulation Samples and Results

Figure 1. Adempas Study (Conducted on 2/21/13)

Handwritten Requisition Medication Order	Verbal Prescription
<p><u>Inpatient Medication Order:</u></p> <p><i>Adempas 1mg po three times a day</i></p>	<p>Adempas 1.5 mg Take 1 orally three times a day Dispense #90</p>
<p><u>Outpatient Prescription:</u></p> <div data-bbox="196 695 919 1140" style="border: 1px solid black; padding: 5px;"><p>Patient _____ Date <u>2/21/13</u> Address _____ R <i>Adempas 1.5mg</i> <i>1 po TID #90</i>  Refill(s): _____ Dr. <u><i>OSE</i></u> _____ DEA No. _____ Address _____ Telephone _____</p></div>	

FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

Study Name: Adempas

192 People Received Study
79 People Responded

	Total	27	20	32	
INTERPRETATION	INPATIENT	VOICE	OUTPATIENT	TOTAL	
ACHEMPAS	1	0	0	1	
ADAMPES	0	1	0	1	
ADAMPESSE	0	1	0	1	
ADAMPIS	0	2	0	2	
ADANPASE	0	1	0	1	
ADAPESSE	0	1	0	1	
ADAPTNESS	0	1	0	1	
ADEMBIS	0	1	0	1	
ADEMPAS	6	2	28	36	
ADEMPESSE	0	1	0	1	
ADEMPIS	0	3	0	3	
ADEMPISS	0	1	0	1	
ADEMPOS	1	0	0	1	
ADEMPUS	0	1	0	1	
ADEMTESSE	0	1	0	1	
ADENFIS	0	1	0	1	
ADENOPAS	0	0	2	2	
ADENPAS	5	0	1	6	

ADIMPAS	0	0	1	1
ADVENTIS	0	1	0	1
ADVENTUS	0	1	0	1
AIKEMPAS	1	0	0	1
ARKEMPAS	2	0	0	2
ARKEMPOS	1	0	0	1
ARKENPAS	4	0	0	4
ARLEMPAS	1	0	0	1
ARTEMPAS	2	0	0	2
ARTENPAS	2	0	0	2
KIMIDEIS	1	0	0	1

Appendix D: Proprietary names not likely to be confused or not used in usual practice settings for the reasons described.

No.	Proprietary Name	Active Ingredient	Similarity to Adempas	Failure preventions
1.	Adiptam	Burning bush	Look	The pair have sufficient orthographic differences
2.	Atarax	Hydroxyzine Hydrochloride	Look	The pair have sufficient orthographic differences
3.	Azepan	Diazepam	Look	The pair have sufficient orthographic differences
4.	Sinequan	Doxepin Hydrochloride	Look	The pair have sufficient orthographic differences
5.	Compazine	Prochlorperazine	Sound	The pair have sufficient phonetic differences
6.	Adalat	Nifedipine	Sound	The pair have sufficient phonetic differences
7.	Attenuvax	Measles Vaccine	Sound	The pair have sufficient phonetic differences
8.	Pristiq	Desvenlafaxine Succinate	Sound	The pair have sufficient phonetic differences
9.	Adenocard	Adenosine	Look & Sound	The pair have sufficient orthographic and phonetic differences
10.	Aceta-gesic	Acetaminophen/ Phenyltoloxamine Citrate	Look & Sound	The pair have sufficient orthographic and phonetic differences
11.	Adderall	Dextroamphetamine/ Amphetamine mixture	Look & Sound	The pair have sufficient orthographic and phonetic differences
12.	Allerx	(Tablets) Pseudoephedrine Hydrochloride/ Chlorpheniramine Maleate/ Scopolamine (Suspension) Phenylephrine Tannate/ Chlorpheniramine Tannate	Look & Sound	The pair have sufficient orthographic and phonetic differences
13.	Zenpep	Lipase/Protease/Amylase	Look &	The pair have sufficient

No.	Proprietary Name	Active Ingredient	Similarity to Adempas	Failure preventions
			Sound	orthographic and phonetic differences
14.	Adempas	Riociguat	Look & Sound	Subject of this review

Appendix E: Risk of medication errors due to product confusion minimized by dissimilarity of the names and/ or use in clinical practice for the reasons described.

No	Proposed name: Adempas Dosage Form(s): Tablet Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	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.	<p>Adagen (Pegademase Bovine) Injection 375 units/1.5 mL (250 units/mL) in single-use vial</p> <p><u>Usual Dose:</u> 10 units/kg for the first dose, then 15 units/kg for the second dose, and then 20 units/kg for the third dose. The usual maintenance dose is 20 units/kg per week. Further increases of 5 units/kg per week may be necessary, but a maximum single dose of 30 units/kg should not be exceeded. Administer every 7 days as intramuscular injection.</p> <p><u>Note:</u> Adagen is recommended for use in</p>	<p>Orthographic similarity -Both names begin with identical letter string ‘Ad’ followed by orthographically similar vowel ‘e vs. a’, and contain a downstroke letter</p> <p>Product characteristic similarity -Strength: Numerical similarity between Adempas 2.5 mg and Adagen 250 units/mL Dose: There is potential for numerical similarity between the dose of Adagen and the dose of Adempas (i.e., if a 2 kg infant received a dose of Adagen at 10 units/kg, thus receiving a dose of 20 units, this would have numeric similarity with the 2 mg dose of Adempas). Route of administration: Both drugs have only one route of</p>	<p>Orthographic differences -Adempas has an extra letter ‘m’ in the middle of its name which elongates the name resulting in a different infix than Adagen</p>

No	<p>Proposed name: Adempas</p> <p>Dosage Form(s): Tablet</p> <p>Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg</p> <p>Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)</p>	<p>Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion</p> <p>Causes (could be multiple)</p>	<p>Prevention of Failure Mode</p> <p>In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names</p>
	<p>infants from birth or in children of any age at the time of diagnosis</p>	<p>administration that may be omitted from a prescription.</p>	
2.	<p>Adapin (Doxepin Hydrochloride) Capsules</p> <p>10 mg, 25 mg, 50 mg, 75 mg, 100 mg, 150 mg</p> <p><u>Usual Dose:</u></p> <p>10 mg to 300 mg per day in single or divided doses depending on indication.</p> <p><u>Note:</u> Adapin has been discontinued since 1999 but generics are available.</p>	<p>Orthographic similarity -Both names begin with identical letter string ‘Ad’ followed by orthographically similar vowels ‘e vs. a’ and contain the same downstroke letter ‘p’</p> <p>Phonetics similarity Both names contain 3 syllables and have identical first syllables with the ‘Ad’ sound.</p> <p>Product characteristic similarity -Strength and Dose: Numerical similarity in dose/strength with 1 mg vs. 10 mg, 0.5 mg vs. 50 mg, 2.5 mg vs. 25 mg, and 1.5 mg vs. 150 mg. There is also numerical similarity in the dose with 2 mg vs. 20 mg.</p> <p>-Dosage Formulation: Both products are solid dosage forms</p> <p>-Route of administration: Both drugs are orally administered</p>	<p>Orthographic difference -Adempas has an extra letter ‘m’ in the middle of its name which elongates the name resulting in a different infix than Adapin</p> <p>Phonetics difference The middle syllables “em” and “a” sound different when pronounced due to the ‘m’ in Adempas. The third syllables “pin” and “pas” also sound different when pronounced due to the ‘in’ vs. ‘as’</p>

No	<p>Proposed name: Adempas</p> <p>Dosage Form(s): Tablet</p> <p>Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg</p> <p>Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)</p>	<p>Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion</p> <p>Causes (could be multiple)</p>	<p>Prevention of Failure Mode</p> <p>In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names</p>
3.	<p>Adipost (Phendimetrazine Tartrate) Capsules</p> <p>105 mg</p> <p><u>Usual Dose:</u></p> <p>1 capsule daily.</p>	<p>Orthographics similarity -Both names begin with identical letter string ‘Ad’ followed by orthographically similar vowel ‘e vs. i’, and contain the same downstroke letter ‘p’, followed by the orthographically similar letter strings ‘as’ vs. ‘os’</p> <p>Phonetics similarity Both names contain 3 syllables and have identical first syllables with the ‘Ad’ sound.</p> <p>Product characteristic similarity -Dosage Formulation: Both products are solid dosage form</p> <p>-Route of administration: Both drugs are orally administered</p> <p>-Dose: Both drugs can be written as ‘take 1’</p>	<p>Orthographic differences Adipost ends in an upstroke/crosstroke letter ‘t’ not found in Adempas, and Adempas contains the letter ‘m’ in the middle of its name, not found in Adipost, resulting in a different infix</p> <p>Phonetics differences -Both names contain different second syllables from the sound of the short vowel ‘i’ in Adipost vs. ‘em’ in Adempas, and different third syllables from the sound of the long vowel ‘o’ in Adipost vs. the short ‘ah’ sound in Adempas</p> <p>-Adipost ends with a ‘t’ sound vs. Adempas ending with a ‘s’ sound</p> <p>Product characteristic differences -Strength: Adipost is available as a single strength that may be omitted on a prescription but Adempas is a multiple strength product that may be written on a prescription and there is no overlap in strength</p>
4.	<p>Adipex-P (Phentermine Hydrochloride)</p>	<p>Orthographics similarity -Both names begin with identical letter string ‘Ad’ followed by</p>	<p>Orthographic differences -Adempas has an extra letter ‘m’ in the middle of its name</p>

No	<p>Proposed name: Adempas</p> <p>Dosage Form(s): Tablet</p> <p>Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg</p> <p>Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)</p>	<p>Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion</p> <p>Causes (could be multiple)</p>	<p>Prevention of Failure Mode</p> <p>In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names</p>
	<p>37.5 mg Tablets and Capsules</p> <p><u>Usual dose:</u></p> <p>1 daily on empty stomach to reduce appetite</p> <p><u>Note:</u> Adipex-P is a CIV drug.</p>	<p>orthographically similar vowel ‘e vs. i’, and contain the same downstroke letter ‘p’</p> <p>Phonetics similarity Both names contain 3 syllables and have identical first syllables with the ‘Ad’ sound</p> <p>Product characteristic similarity -Dosage Formulation: Both products are tablets -Route of administration: Both drugs are orally administered. -Dose: Both drugs can be written as ‘take 1’</p>	<p>which elongates the name resulting in a different infix than Adipex-P. If the modifier “P” is included, that can also offer some orthographic differentiation between the name pair</p> <p>Phonetics differences Both names contain a different second syllable sound due to the vowel ‘i’ in Adipex vs. ‘em’ in Adempas</p> <p>Product characteristic differences -Strength: Adipex-P is available as a single strength that may be omitted on a prescription but Adempas is a multiple strength product that may be written on a prescription and there is no overlap in strength</p>
5.	<p>Adeno-Jec (Adenosine Phosphate) Injection</p> <p>25 mg/mL</p> <p><u>Usual Dose:</u></p> <p>Adults: Paroxysmal supraventricular tachycardia: initial 6 mg intravenous peripheral bolus over 1 to 2 seconds, increase to 12 mg every 1 to 2 min as</p>	<p>Orthographics similarity Both names begin with identical letter string ‘Ade’ followed by orthographically similar letters ‘n’ vs. ‘m’ and vowels ‘o vs. a’ and contain a downstroke letter ‘j’ vs. ‘p’, followed by orthographically similar ending letter string from ‘as vs. ec’</p> <p>Product characteristic similarity -Strength:</p>	<p>Product characteristic differences -Setting of use: Adenosine is used in a hospital setting for emergency situations for treating paroxysmal supraventricular tachycardia (SVT). Adenosine is given as a rapid bolus by the peripheral intravenous route as close to the heart as possible. Therefore, Adenosine is not likely to be</p>

No	<p>Proposed name: Adempas</p> <p>Dosage Form(s): Tablet</p> <p>Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg</p> <p>Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)</p>	<p>Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion</p> <p>Causes (could be multiple)</p>	<p>Prevention of Failure Mode</p> <p>In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names</p>
	<p>needed for 2 doses. Max single dose 12 mg.</p> <p>Children: Paroxysmal supraventricular tachycardia: (weight at least 50 kg or above), initial 6 mg intravenous peripheral bolus over 1 to 2 seconds, increase to 12 mg every 1 to 2 min as needed for 2 doses. Max single dose 12 mg.</p> <p>Paroxysmal supraventricular tachycardia: (weight less than 50 kg): Initial dose 0.05 mg/kg to 0.1 mg/kg per dose intravenous as a rapid bolus (Max 6 mg per single dose); may repeat at increasing increments of 0.05 mg/kg to 0.1 mg/kg per dose intravenous every 1 to 2 min as needed; Max single dose of 0.3 mg/kg.</p> <p><u>Note:</u> Adeno-Jec has been discontinued since 3/1/2005 but generic Adenosine products are available.</p>	<p>Numerical similarity between the strength of Adeno-Jec 25 mg/mL vs. Adempas 2.5 mg</p> <p>-Dose: There is potential for numerical overlap between the dose of Adeno-Jec and the dose of Adempas (i.e., if a 5 kg infant received 0.3 mg/kg, thus receiving a dose of 1.5 mg, this would have numeric overlap with the 1.5 mg dose of Adempas).</p> <p>-Route of administration: Both drugs have only one route of administration that may be omitted from a prescription.</p>	<p>dispensed in a retail pharmacy setting.</p>
6.	<p>Adenosine (Adenosine Phosphate) Injection</p> <p>3 mg/mL available as 6 mg/2 mL or 12 mg/4 mL</p> <p><u>Usual Dose:</u></p>	<p>Orthographics similarity</p> <p>Both names begin with identical letter string ‘Ade’ followed by orthographically similar letters ‘n’ vs. ‘m’</p>	<p>Orthographic differences</p> <p>Adenosine and Adempas have different infixes/suffixes from the letter strings ‘osine’ vs. ‘pas’</p> <p>Product characteristic</p>

No	<p>Proposed name: Adempas</p> <p>Dosage Form(s): Tablet</p> <p>Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg</p> <p>Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)</p>	<p>Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion</p> <p>Causes (could be multiple)</p>	<p>Prevention of Failure Mode</p> <p>In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names</p>
	<p>Adults: Paroxysmal supraventricular tachycardia: initial 6 mg intravenous peripheral bolus over 1 to 2 seconds, increase to 12 mg every 1 to 2 min as needed for 2 doses. Max single dose 12 mg.</p> <p>Children: Paroxysmal supraventricular tachycardia: (weight at least 50 kg or above), initial 6 mg intravenous peripheral bolus over 1 to 2 seconds, increase to 12 mg every 1 to 2 min as needed for 2 doses. Max single dose 12 mg.</p> <p>Paroxysmal supraventricular tachycardia: (weight less than 50 kg): Initial dose 0.05 mg/kg to 0.1 mg/kg per dose intravenous as a rapid bolus (Max 6 mg per single dose); may repeat at increasing increments of 0.05 mg/kg to 0.1 mg/kg per dose intravenous every 1 to 2 min as needed; Max single dose of 0.3 mg/kg.</p>	<p>Product characteristic similarity</p> <p>-Dose/Strength: Adenosine is available as a single strength product that may be omitted on a prescription while the strength for Adempas may be written as either the strength or dose which may overlap with the Adenosine dose. For instance, if a 5 kg infant received Adenosine at a dose of 0.3 mg/kg, or a calculated dose of 1.5 mg, this would have numerical overlap with the 1.5 mg dose/strength of Adempas).</p> <p>-Route of administration: Both drugs have only one route of administration that may be omitted from a prescription.</p>	<p>differences</p> <p>-Setting of use: Adenosine is used in a hospital setting for emergency situations for treating paroxysmal supraventricular tachycardia (SVT). Adenosine is given as a rapid bolus by the peripheral intravenous route as close to the heart as possible. Therefore, Adenosine is not likely to be dispensed in a retail pharmacy setting.</p> <p>-Frequency of administration: Single or 2 doses vs. three times daily</p>
7.	<p>Ciclopirox (Ciclopirox)</p> <p>8% Topical Solution 1% Shampoo</p>	<p>Orthographics similarity</p> <p>-Both names begin with orthographically similar letter</p>	<p>Orthographic differences</p> <p>Ciclopirox and Adempas have different infixes/suffixes from the letter strings 'mpas' vs.</p>

No	<p>Proposed name: Adempas</p> <p>Dosage Form(s): Tablet</p> <p>Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg</p> <p>Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)</p>	<p>Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion</p> <p>Causes (could be multiple)</p>	<p>Prevention of Failure Mode</p> <p>In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names</p>
	<p>0.77% Gel</p> <p><u>Usual Dose:</u> <i>Onychomycosis of fingernails and toenails, mild to moderate:</i> <i>Nail lacquer topical solution:</i> Apply once daily (preferably at bedtime or 8 hours before washing) to all affected nails with the applicator brush provided.</p> <p><i>Seborrheic dermatitis of the scalp:</i> <i>Gel:</i> Apply to affected scalp areas twice daily, in the morning and evening, for 4 weeks.</p> <p><i>Shampoo:</i> Wet hair and apply approximately 5 mL of Ciclopirox shampoo to the scalp. Up to 10 mL may be used for long hair. Lather and leave on hair and scalp for 3 minutes. Avoid contact with eyes. Rinse off. Repeat treatment twice per week for 4 weeks, with a minimum of 3 days between applications.</p> <p><i>Superficial dermatophyte infections (interdigital tinea pedis, tinea corporis):</i> <i>Gel:</i> Gently massage into the</p>	<p>strings since ‘Ci’ may appear as ‘A’ and ‘cl’ may appear as ‘d’ and ‘o’ may appear as ‘e’ when scripted, and contain the same downstroke letter ‘p’ in the middle of the name, followed by orthographically similar letters</p>	<p>‘pirox’</p> <p>Product characteristic differences</p> <p>-Strength: Ciclopirox prescription must include the strength and Adempas is a multiple strength product that must have the strength specified on a prescription. There is no overlap in strength.</p> <p>-Dose: No overlap (take 1 or mg vs. apply vs. shampoo)</p>

No	<p>Proposed name: Adempas</p> <p>Dosage Form(s): Tablet</p> <p>Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg</p> <p>Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)</p>	<p>Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion</p> <p>Causes (could be multiple)</p>	<p>Prevention of Failure Mode</p> <p>In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names</p>
	<p>affected areas and surrounding skin twice daily, in the morning and evening, immediately after cleaning or washing the areas to be treated.</p> <p>Interdigital tinea pedis and tinea corporis should be treated for 4 weeks.</p>		
8.	<p>Salonpas (Methyl Salicylate and L-menthol) Topical Patch</p> <p>10% methyl salicylate and 3% L-menthol</p> <p><u>Usual Dose:</u></p> <p>Apply one patch for 8 hours to 12 hours and a second patch may be applied, as necessary, for an additional 8 hours to 12 hours. The patch may be employed for up to three days usage.</p> <p><u>Note:</u> Salonpas is an OTC product.</p>	<p>Orthographics similarity Both names share an orthographically similar beginning letter ‘S vs. A’, followed by an upstroke letter ‘l vs. d’, and identical ending letter string ‘-pas’</p> <p>Phonetics similarity Both names contain 3 syllables with a 3-1-2 stress pattern and have identical third syllables, ‘pas’</p> <p>Product characteristic similarity -Route of administration: Both drugs have only one route of administration that may be omitted from a prescription. -Frequency of administration: Both drugs are administered three times a day</p>	<p>Orthographic differences Salonpas has a vowel ‘a’ preceding the upstroke letter not found in Adempas</p> <p>Phonetics differences Both names contain different first and second syllables (‘Salon’ vs. ‘A-dem’).</p> <p>Product characteristic differences -Strength: Salonpas is available as a single strength that may be omitted on a prescription but Adempas is a multiple strength product that must be specified on a prescription and there is no overlap in strength -Dose: There is no overlap between the dose of Salonpas and Adempas with given strengths</p>
9.	<p>Urispas (Flavoxate</p>	<p>Orthographics similarity</p>	<p>Orthographic differences Urispas lacks the upstroke letter</p>

No	<p>Proposed name: Adempas</p> <p>Dosage Form(s): Tablet</p> <p>Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg</p> <p>Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)</p>	<p>Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion</p> <p>Causes (could be multiple)</p>	<p>Prevention of Failure Mode</p> <p>In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names</p>
	<p>Hydrochloride)</p> <p>100 mg Tablet</p> <p><u>Usual Dose:</u></p> <p>Adults and children 12 years of age and older: 100 mg to 200 mg 3 or 4 times a day</p>	<p>Both names share an orthographically similar beginning letter ‘U vs. A’, and identical ending letter string ‘-pas’</p> <p>Phonetics similarity Both names have identical third syllables, ‘pas’</p> <p>Product characteristic similarity -Route of administration: Both drugs are administered orally. -Frequency of administration: Both drugs are administered three times a day -Dosage form: Both drugs are tablets -Dose: Both drugs can be written as ‘take 1’</p>	<p>‘d’ found in Adempas and has different infix from the letter string ‘ris’ vs. ‘dem’</p> <p>Phonetics differences Both names contain different first and second syllables (‘U-ris’ vs. ‘A-dem’).</p> <p>Product characteristic differences -Strength: Urispas is available as a single strength that may be omitted on a prescription but Adempas is a multiple strength product that must be specified on a prescription and there is no overlap in strength (the numerical similarity between the Adempas 1 mg vs. Urispas 100 mg is unlikely to cause confusion since it is a 100-fold difference)</p>
10.	<p>Anaspaz (Hyoscyamine Sulfate)</p> <p>0.125 mg Orally Disintegrating Tablets</p> <p><u>Usual Dose:</u></p> <p>Adults and children 12 years of age and older: 1 or 2 tablets every four hours or as needed. Do not exceed 12 tablets in 24 hours. Children</p>	<p>Orthographics similarity Both names share an identical beginning letter ‘A’, and orthographically similar ending letter string ‘-paz’ vs. ‘-pas’</p> <p>Phonetics similarity Both names contain 3 syllables and have similar sounding third syllables with ‘paz’ vs. ‘pas’</p> <p>Product characteristic similarity</p>	<p>Orthographic differences Anaspaz lacks the upstroke letter ‘d’ found in Adempas and has different infix from the letter string ‘nas’ vs. ‘dem’</p> <p>Phonetics differences Both names contain distinctive second syllables from ‘-nas-’ vs. ‘-dem-’.</p> <p>Product characteristic</p>

No	<p>Proposed name: Adempas</p> <p>Dosage Form(s): Tablet</p> <p>Strength(s): 0.5 mg, 1 mg, 1.5 mg, 2 mg, and 2.5 mg</p> <p>Usual Dose: 1 mg tid for 2 weeks then titrate to range of 0.5 mg to 2.5 mg tid (maximum daily dose is 2.5 mg tid or 7.5 mg)</p>	<p>Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion</p> <p>Causes (could be multiple)</p>	<p>Prevention of Failure Mode</p> <p>In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names</p>
	<p>2 to under 12 years of age: ½ to 1 tablet every four hours or as needed. Do not exceed 6 tablets in 24 hours. Anaspaz may be taken orally (swallowed or chewed) or sublingually.</p>	<p>-Route of administration: Both drugs are administered orally.</p> <p>-Dosage form: Both drugs are tablets</p> <p>-Dose: Both drugs can be written as ‘take 1’</p>	<p>differences</p> <p>-Strength: Anaspaz is available as a single strength that may be omitted on a prescription but Adempas is a multiple strength product that must be specified on a prescription and there is no overlap in strength</p>

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/s/

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