

**CENTER FOR DRUG EVALUATION AND  
RESEARCH**

*APPLICATION NUMBER:*  
**202872Orig1s000**

**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**

Date: September 24, 2012

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Drug Name(s) and: Lotemax (Loteprednol Etabonate) Ophthalmic Gel, 0.5%  
Strength(s)

Application Type/Number: NDA 202872

Applicant/Sponsor: Bausch & Lomb

OSE RCM #: 2012-2185

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## 1 INTRODUCTION

This review evaluates the proposed proprietary name, Lotemax, 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

This is the eighth name proposed for this product. The first seven names were found unacceptable for the following reasons:



<sup>(b) (4)</sup> In addition, to these three names the applicant also submitted the name Lotemax and explained that this product is identical to the currently marketed Lotemax with the following two exceptions. First the proposed product is an ophthalmic gel while the two currently marketed Lotemax products are an ophthalmic suspension and an ophthalmic ointment. Second the suspension carries a second indication (for steroid-responsive inflammatory conditions of the eye) that the proposed product and the ointment do not have.

On September 19, 2012, the applicant was informed that the three names <sup>(b) (4)</sup> would not be found acceptable because of possible confusion with the following name pairs: <sup>(b) (4)</sup> (orthographic) and <sup>(b) (4)</sup> (orthographic and phonetic); <sup>(b) (4)</sup> (orthographic and phonetic); and <sup>(b) (4)</sup> (phonetic) and <sup>(b) (4)</sup>.

### 1.2 PRODUCT INFORMATION

The following product information is provided in the September 21, 2012 proprietary name submission.

- Active Ingredient: Loteprednol Etabonate
- Indication of Use: For the treatment of inflammation and pain following ocular surgery.
- Route of Administration: Ophthalmic
- Dosage Form: Ophthalmic Gel
- Strength: 0.5%

- Dose and Frequency: Apply one to two drops into the conjunctival sac of the affected eye(s) four times daily after surgery and continuing throughout the first 2 weeks of the post-operative period.
- How Supplied: 5 g in a 10 mL bottle.
- Storage: Store upright at 15°C to 25°C (59°F to 77°F)
- Container and Closure Systems: In a white LDPE plastic bottle with a white controlled drop tip and a pink polypropylene cap.

## **2 RESULTS**

The following sections provide the 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 Transplant and Ophthalmology Products (DTOP) 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 September 19, 2012, 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 Applicant indicated in their submission that the proposed name, Lotemax, is the proprietary name for two currently marketed products (suspension and ophthalmic gel) that contain the same active ingredient, used for the same indication, in the same strength, dose and frequency for the proposed product. This proprietary name is comprised of a single 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 Medication Error Data Selection of Cases***

DMEPA searched FAERS database for medication errors involving Lotemax which would be relevant for this review. The September 17, 2012, search of the FDA Adverse Event Reporting System (FAERS) database used the following search terms: Product Name "Lotemax", Active Ingredient "Loteprednol", Verbatim Products "Lotepred%" and "Lotem%", High Level Terms "Product Quality Issues NEC", "Product Label Issues", "Product Packaging Issues", and High Level Group Term "Medication Errors".

Each report was reviewed for relevancy and duplication. Duplicates were merged into a single case. The NCC MERP Taxonomy of Medication Errors was used to code the case outcome and error root causes when provided by the reporter.

After individual review, all 29 reports were not included in the final analysis for the following reasons:

Seventeen cases did not involve medication errors of Lotemax and Lotemax was a concomitant medication in those reports.

Six reports were adverse events and not the result of a medication error. The remaining six cases did not involve medication errors related to the proprietary name Lotemax.

#### **2.2.4 FDA Name Simulation Studies**

Due to time limitation of this review, FDA Name Simulation Studies were not conducted. Moreover, the proprietary name Lotemax already exists in the US marketplace.

#### **2.2.5 Comments from Other Review Disciplines**

In response to the OSE, September 12, 2012 e-mail, the Division of Division of Transplant and Ophthalmology Products (DTOP) did not forward any comments or concerns relating to the proposed name at the initial phase of the proprietary name review.

#### **2.2.6 Failure Mode and Effects Analysis of Similar Names**

To evaluate possible orthographic and phonetic similar names we reviewed our previous OSE Review #2010-591, to evaluate if the addition of an ophthalmic gel would now pose a risk on confusion with these products. Additionally, we searched databases to identify names with orthographic and phonetic similarity to the proposed name that have been approved since the previous OSE proprietary name review. Table 1 lists the names with orthographic, phonetic, or spelling similarity to the proposed proprietary name, Lotemax identified from our previous review. We did not identify any new names that have been approved since our previous OSE Review.

<b>Table 1: Collective List of Potentially Similar Names</b>					
<b>Look Similar</b>					
<i>Name</i>	<i>Source</i>	<i>Name</i>	<i>Source</i>	<i>Name</i>	<i>Source</i>
Flomax	Previous Review	Soltamox	Previous Review	Loxitane	Previous Review
Latisse	Previous Review	Lotensin	Previous Review	Lovenox	Previous Review
Fosamax	Previous Review	Topamax	Previous Review	Lotrimin	Previous Review

<b>Table 1 Continued.</b>					
<b>Look Similar</b>					
Lotrisone	Previous Review	Letairis	Previous Review	Beta Care	Previous Review
LoKara	Previous Review	Betimol	Previous Review	Latrix	Previous Review
Lutera	Previous Review	Vomax	Previous Review		
<b>Look and Sound Similar</b>					
<i>Name</i>	<i>Source</i>	<i>Name</i>	<i>Source</i>	<i>Name</i>	<i>Source</i>
Lutemax	Previous Review	Lotemax	Previous Review	Lotemax Light	Previous Review
Lotronex	Previous Review				

Our analysis of the 21 names contained in Table 1 considered the information obtained in the previous sections along with their product characteristics. We determined the addition of an ophthalmic gel would not increase the risk of confusion between these names and the proprietary name Lotemax (See Section 3 for Discussion).

### ***2.2.7 Failure Mode and Effects Analysis of Lotemax Product Line Extension***

Lotemax ophthalmic gel will be added to the existing Lotemax product line, which includes Lotemax ophthalmic suspension and Lotemax ophthalmic ointment. This proposed product is identical to the two currently marketed Lotemax products with the following two exceptions. First the proposed product is an ophthalmic gel while the two currently marketed Lotemax products are an ophthalmic suspension and an ophthalmic ointment. Second the suspension carries a second indication (for steroid-responsive inflammatory conditions of the eye) that the proposed product and the ointment do not have.

In evaluating the Applicant's proposal to expand the existing Lotemax product line to include an ophthalmic gel, we evaluated the potential risks of confusion within the product line. We also evaluated the potential for confusion from a look and sound alike perspective by adding the gel dosage form to the existing Lotemax product line.

When considering the Applicants proposal to use the same proprietary name but differentiate the two products with the dosage forms (i.e., ophthalmic solution vs. ophthalmic ointment vs. ophthalmic gel), we determined that several currently marketed products utilize a single proprietary name for different ophthalmic dosage forms. Examples include Ciloxan 0.3%, Gentak 0.3%, and Tobrex 0.3% have multiple dosage forms managed under the same proprietary. There is a possibility for confusion between the three dosage forms resulting in medication errors, because the products share product characteristics including the same strength, frequency of administration, and indication of use (for the treatment of post-operative inflammation and pain

following ocular surgery). However, the ointment and suspension have been marketed concurrently for 2 years and we do not have any reports of confusion between the two products.

Because of the potential risk of confusion between the three dosage forms, we also evaluated the risk of using an alternate proprietary name for the proposed Loteprednol Etabonate ophthalmic gel dosage form. Utilizing two different proprietary names could result in two practitioners independently prescribing Lotemax ophthalmic solution for a steroid-responsive inflammatory condition and the proposed ophthalmic gel for the treatment of inflammation and pain following ocular surgery resulting in concomitant administration of two Loteprednol Etabonate products. Concomitant therapy of Loteprednol Etabonate may result in over dosage leading to adverse events.

Thus, DMEPA finds that either naming convention [one proprietary name (Lotemax) or two different proprietary names] carries some risk of confusion and error. However, we concur with the Applicant's proposal to market the proposed Loteprednol Etabonate ophthalmic ointment product under the name, Lotemax, because there appears to be less risk of adverse events than with two different proprietary names that may result in concomitant administration. Additionally, the Division could not find any safety reason that these products could exist under the same proprietary name. To further help minimize the risk of confusion for these products, the container labels and carton labeling should be differentiated from one another.

### ***2.2.8 Communication of DMEPA's Final Decision to Other Disciplines***

DMEPA communicated our findings to the Division of Transplant and Ophthalmology Products (DTOP) at the wrap up meeting on September 14, 2012. At that time we also requested additional information or concerns that could inform our review and specifically asked the Division if there was any reason that this proposed product could not use the proprietary name Lotemax. The Division of Transplant and Ophthalmology Products (DTOP), stated at the same meeting that there were no additional concerns with the proposed proprietary name, Lotemax and there is not any safety reason that would preclude this product from using the name proprietary name Lotemax.

## **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 Karen Townsend, OSE project manager, at 301-796-5413.

### **3.1 COMMENTS TO THE APPLICANT**

We have completed our review of the proposed proprietary name, Lotemax, and have concluded that this name is acceptable. However, if any of the proposed product characteristics as stated in your September 21, 2012 submission are altered, DMEPA rescinds this finding and 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](http://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](http://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](http://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](http://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](http://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](http://www.lexi.com))***

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

**15. *Medical Abbreviations ([www.medilexicon.com](http://www.medilexicon.com))***

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

**16. *CVS/Pharmacy ([www.CVS.com](http://www.CVS.com))***

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

**17. *Walgreens ([www.walgreens.com](http://www.walgreens.com))***

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

**18. Rx List ([www.rxlist.com](http://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](http://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.<sup>1</sup>

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

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<sup>1</sup> National Coordinating Council for Medication Error Reporting and Prevention.  
<http://www.nccmerp.org/about/MedErrors.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.<sup>2</sup>

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).

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<sup>2</sup> 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.

<b>Type of Similarity</b>	<b>Considerations when Searching the Databases</b>		
	<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"> <li>Names may appear similar in print or electronic media and lead to drug name confusion in printed or electronic communication</li> <li>Names may look similar when scripted and lead to drug name confusion in written communication</li> </ul>
	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"> <li>Names may look similar when scripted, and lead to drug name confusion in written communication</li> </ul>
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"> <li>Names may sound similar when pronounced and lead to drug name confusion in verbal communication</li> </ul>

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.<sup>3</sup> 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

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<sup>3</sup> 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 – FAERS ISR Numbers:**

3265349	3285007	3440840	3477186	3933883	5749512
5774618	5972777	6648028	6650303	6858835	7253689
7275310	7333563	7379660	7722842	7758065	7935312
7935323	8028284	8268555	8468685	8528529	8528564
8544915	8544927	8551355	8713774	8740632	

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/s/  
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ZACHARY A OLESZCZUK  
09/24/2012

CAROL A HOLQUIST  
09/24/2012

**MEMORANDUM**

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE  
FOOD AND DRUG ADMINISTRATION  
CENTER FOR DRUG EVALUATION AND RESEARCH

**MEETING DATE:** July 19, 2012  
**TIME:** 2:30 PM  
**LOCATION:** WO Bldg 22, Rm 4322  
**APPLICATION:** NDA 202872  
**DRUG NAME:** (b) (4) (Loteprednol Etabonate Ophthalmic Gel)  
**TYPE OF MEETING:** Proprietary Name Review Teleconference (b) (4)

**APPLICANT:** Bausch & Lomb

**MEETING CHAIR:** Jamie Wilkins Parker, PharmD (DMEPA Acting Team Leader)

**MEETING RECORDER:** Karen Townsend, Safety Regulatory Project Manager, OSE

**FDA ATTENDEES:** Jung Lee, RPh (DMEPA Safety Evaluator)  
Jamie Wilkins Parker, PharmD (DMEPA Acting Team Leader)  
Karen Townsend, (OSE PM DTOP)

**SPONSOR ATTENDEES:** Dan Wechsler – President of Pharmaceuticals  
Paul Nowacki – Director US Regulatory  
Mary Harrell – Manager, Global Regulatory  
Sharon Tonetta – VP, Global Regulatory  
Marvin Garrett – VP, US Regulatory  
Deb Jorn – VP, Global Commercial  
Sanjay Malieckal – Manager, Commercial

**Background:**

DMEPA requested this teleconference to notify you of our safety concerns with the proposed proprietary name, (b) (4)

**Discussion:**

**Look-Alike Concerns:**

The proposed proprietary name, (b) (4) has significant orthographic similarities to the products (b) (4) for the following reasons.

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/s/  
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KAREN F TOWNSEND  
08/01/2012

**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  
Division of Medication Error Prevention and Analysis**

**Proprietary Name Review**

Date: December 29, 2011

Reviewer: Jung Lee, RPh  
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: (b) (4) (Loteprednol Etabonate) Ophthalmic Gel 0.5%

Application Type/Number: NDA 202872

Applicant/Sponsor: Bausch & Lomb

OSE RCM #: 2011-4416

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

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immediately following this page

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/s/  
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JUNG E LEE  
12/29/2011

IRENE Z CHAN  
12/29/2011