CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

204630Orig1s000

PROPRIETARY NAME REVIEW(S)

PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis (DMEPA)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

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

Date of This Review:	February 19, 2016
Application Type and Number:	NDA 204630
Product Name and Strength:	ProvayBlue (Methylene Blue) Injection, 50 mg/10 mL (5 mg/mL)
Total Product Strength:	50 mg/10 mL
Product Type:	Single-Ingredient Product
Rx or OTC:	Rx
Applicant/Sponsor Name:	Provepharm SAS
Panorama #:	2016-2493314
DMEPA Primary Reviewer:	Nicole Garrison, PharmD, BCPS
DMEPA Team Leader:	Yelena Maslov, PharmD

Contents

1 INTRODUCTION

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

1.1 REGULATORY HISTORY

The Applicant previously submitted the proposed proprietary name, [redacted] on October 31, 2013. However, the Office of Prescription Drug Promotion (OPDP) found the name, [redacted] unacceptable because it was misleading in OSE Review #2013-2553, dated November 26, 2013.

Thus, the Applicant submitted the name, [redacted] for review on March 13, 2014. The application received a CR and was re-submitted for review on October 9, 2015. However, DMEPA found the name, [redacted] unacceptable in OSE Review #2015-1719756, dated December 21, 2015. Thus, the Applicant submitted the name, ProvayBlue, for review on January 11, 2016.

1.2 PRODUCT INFORMATION

The following product information is provided in the January 11, 2016 proprietary name submission.

- Intended Pronunciation: (/proh/-/vay/-/bloo/)
- Active Ingredient: Methylene Blue
- Indication of Use: Antidote for the treatment of acquired methemoglobinemia
- Route of Administration: Intravenous
- Dosage Form: Injection
- Strength: 50 mg/mL (5 mg/mL)
- Recommended Dose and Frequency in Adults and Children [redacted]
    - 1 mg/kg [redacted] intravenously over a period of 5 minutes
    - A repeat dose of up to 1 mg/kg [redacted] may be given one hour after the first dose

[redacted]

- How Supplied: 10 mL ampules

- Storage: Store at 20°C to 25°C (68°F to 77°F)

2 RESULTS

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

2.1 MISBRANDING ASSESSMENT

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

2.2 SAFETY ASSESSMENT

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

2.2.1 United States Adopted Names (USAN) Search

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

2.2.2 Components of the Proposed Proprietary Name

The Applicant indicated in their submission that the proposed name, ProvayBlue, is a derivation of the company name, Provepharm, plus the established name of the drug substance (USAN) name, methylene blue. This proprietary name is comprised of a multiple words that do not contain any components (i.e. a modifier, route of administration, dosage form, etc.) that are misleading or can contribute to medication error.

2.2.3 FDA Name Simulation Studies

Sixty-four practitioners participated in DMEPA's prescription studies. One practitioner misinterpreted the voice prescription as "Pronate", which is a close variation of the marketed product, Prenate. See section 2.2.6 for further discussion for this name.

Voice prescriptions had the most varied interpretations. Appendix B contains the results from the verbal and written prescription studies.

2.2.4 Comments from Other Review Disciplines at Initial Review

In response to the OSE, January 19, 2016 e-mail, the Division of Hematology Products (DHP) did not forward any comments or concerns relating to the proposed proprietary name at the initial phase of the review.

2.2.5 Phonetic and Orthographic Computer Analysis (POCA) Search Results

Table 1 lists the number of names with the combined orthographic and phonetic score of ≥50% retrieved from our POCA search[2] organized as highly similar, moderately similar

[1]USAN stem search conducted on January 12, 2016.

or low similarity for further evaluation. Table 1 also includes names identified from the FDA Prescription Simulation Study.

Table 1. POCA Search Results	Number of Names
Highly similar name pair: combined match percentage score ≥70%	4
Moderately similar name pair: combined match percentage score ≥50% to ≤ 69%	107
Low similarity name pair: combined match percentage score ≤49%	0

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

In the voice study, 1 participant misinterpreted ProvayBlue for "Pronate". Pronate is a close variation to the marketed product, Prenate. Despite the misinterpretation in the FDA Rx Study, we do not think that the name pair ProvayBlue and Prenate, has a potential for confusion in the acutal use environment for the following reasons:

1. ProvayBlue and Prenate (Combined POCA 49% and Orthographic POCA 58%) have signficant orthographic and phonetic differences. ProvayBlue has one downstroke in the sixth position compared to Prenate, which does not contain a downstroke. ProvayBlue contains 10 letters versus Prenate which contains 7 letters. The infixes and suffixes of this name pair has sufficient orthographic differences.
2. ProvayBlue has 3 syllables and Prenate has 2 syllables (Phonetic POCA 40%).
3. Additionally, this name does not share any overlapping product characteristics.

Our analysis of the 111 names contained in Table 1 determined 111 names will not pose a risk for confusion as described in Appendices C through H.

2.2.7 Communication of DMEPA's Analysis at Midpoint of Review

DMEPA communicated our findings to the Division of Hematology Products (DHP) via e-mail on February 17, 2016. At that time we also requested additional information or concerns that could inform our review. Per e-mail correspondence from the DHP on February 18, 2016, they stated no additional concerns with the proposed proprietary name, ProvayBlue.

3 CONCLUSIONS

The proposed proprietary name is acceptable.

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[2] POCA search conducted on January 11, 2016.

If you have any questions or need clarifications, please contact Sarah Harris, OSE project manager, at 240-402-4774.

3.1 COMMENTS TO THE APPLICANT

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

If any of the proposed product characteristics as stated in your January 11, 2016 submission are altered prior to approval of the marketing application, the name must be resubmitted for review.

4 REFERENCES

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

   USAN Stems List contains all the recognized USAN stems.

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

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

Drugs@FDA

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

RxNorm

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

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

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

Division of Medication Errors Prevention and Analysis proprietary name consultation requests

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

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

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

APPENDICES

Appendix A

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

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

a. Preliminary Assessment: We consider inclusion of USAN stems or other characteristics that when incorporated into a proprietary name may cause or contribute to medication errors (i.e., dosing interval, dosage form/route of administration, medical or product name abbreviations, names that include or suggest the composition of the drug product, etc.) See prescreening checklist below in Table 2*. DMEPA defines a medication error as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. [3]

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

Reference ID: 3890234

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

	Answer the questions in the checklist below. Affirmative answers to any of these questions indicate a potential area of concern that should be carefully evaluated as described in this guidance.
Y/N	**Is the proposed name obviously similar in spelling and pronunciation to other names?**
	Proprietary names should not be similar in spelling or pronunciation to proprietary names, established names, or ingredients of other products.
Y/N	**Are there medical and/or coined abbreviations in the proprietary name?**
	Proprietary names should not incorporate medical abbreviations (e.g., QD, BID, or others commonly used for prescription communication) or coined abbreviations that have no established meaning.
Y/N	**Are there inert or inactive ingredients referenced in the proprietary name?**
	Proprietary names should not incorporate any reference to an inert or inactive ingredient in a way that might create an impression that the ingredient's value is greater than its true functional role in the formulation (21 CFR 201.10(c)(4)).
Y/N	**Does the proprietary name include combinations of active ingredients?**
	Proprietary names of fixed combination drug products should not include or suggest the name of one or more, but not all, of its active ingredients (see 21 CFR 201.6(b)).
Y/N	**Is there a United States Adopted Name (USAN) stem in the proprietary name?**
	Proprietary names should not incorporate a USAN stem in the position that USAN designates for the stem.
Y/N	**Is this proprietary name used for another product that does not share at least one common active ingredient?**
	Drug products that do not contain at least one common active ingredient should not use the same (root) proprietary name.
Y/N	**Is this a proprietary name of a discontinued product?**
	Proprietary names should not use the proprietary name of a discontinued product if that discontinued drug product does not contain the same active ingredients.

b. Phonetic and Orthographic Computer Analysis (POCA): Following the preliminary screening of the proposed proprietary name, DMEPA staff evaluates the proposed name against potentially similar names. In order to identify names with potential similarity to the proposed proprietary name, DMEPA enters the proposed proprietary name in POCA and queries the name against the following drug reference databases, Drugs@fda, CernerRxNorm, and names in the review pipeline using a 50% threshold in POCA. DMEPA reviews the combined orthographic and phonetic matches and group the names into one of the following three categories:

- Highly similar pair: combined match percentage score ≥70%.
- Moderately similar pair: combined match percentage score ≥50% to ≤ 69%.
- Low similarity: combined match percentage score ≤49%.

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

- For highly similar names, differences in product characteristics often cannot mitigate the risk of a medication error, including product differences such as strength and dose. Thus, proposed proprietary names that have a combined score of ≥ 70 percent are at risk for a look-alike sound-alike confusion which is an area of concern (See Table 3).
- Moderately similar names with overlapping or similar strengths or doses represent an area for concern for FDA. The dosage and strength information is often located in close proximity to the drug name itself on prescriptions and medication orders, and it can be an important factor that either increases or decreases the potential for confusion between similarly named drug pairs. The ability of other product characteristics to mitigate confusion (e.g., route, frequency, dosage form, etc.) may be limited when the strength or dose overlaps. We review such names further, to determine whether sufficient differences exist to prevent confusion. (See Table 4).
- Names with low similarity that have no overlap or similarity in strength and dose are generally acceptable (See Table 5) unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

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

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

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

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

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

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

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

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

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

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

Table 4: Moderately Similar Name Pair Checklist (i.e., combined score is ≥50% to ≤69%).

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

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

Table 5: Low Similarity Name Pair Checklist (i.e., combined score is ≤49%).

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

Appendix B: Prescription Simulation Samples and Results

Figure 1. [redacted] (b) (4) Study (Conducted on January 22, 2016)

Handwritten Requisition Medication Order	Verbal Prescription
Medication Order: ProvayBlue 100mg IV X 1 dose	ProvayBlue Bring to clinic Dispense: #2
Outpatient Prescription: ProvayBlue. Bring to clinic Dispense: #2	

FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

239 People Received Study

64 People Responded

Study Name: ProvayBlue

Total 24 21 19

INTERPRETATION	OUTPATIENT	VOICE	INPATIENT	TOTAL
CROVABLU	0	1	0	1
PRAVABLU	0	1	0	1
PROBABLU	0	1	0	1
PROBEBLUE	0	1	0	1
PRONATE ??	0	1	0	1

PROVABLU	0	1	0	1
PROVABLUE	0	2	0	2
PROVAFLU	0	1	0	1
PROVAGLU	0	1	0	1
PROVAILU	0	1	0	1
PROVALOO	0	1	0	1
PROVALUDE	0	1	0	1
PROVALUE	0	1	0	1
PROVAQ BLUE	0	0	2	2
PROVARELO	0	1	0	1
PROVATELU	0	2	0	2
PROVATLU	0	1	0	1
PROVAY BLUE	24	1	15	40
PROVAY BLUE 100 MG IV	0	0	1	1
PROVAYBLUE	0	0	1	1
PROVEBLU	0	1	0	1
PROVEYBLUE	0	1	0	1

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

	Proposed name: ProvayBlue **Established name: Methylene Blue** **Dosage form: Solution for injection** **Strength(s): 50 mg/10 mL (5 mg/mL)** **Usual Dose:** **Adults and Children** (b) (4) 1 mg/kg (b) (4) intravenously over a period of 5 minutes. A repeat dose of up to 1 mg/kg (b) (4) may be given one hour after the first dose (b) (4)	**POCA Score (%)**	**Orthographic and/or phonetic differences in the names sufficient to prevent confusion** **Other prevention of failure mode expected to minimize the risk of confusion between these two names.**
1.	ProvayBlue***	100	Subject of this review
2.	Prussian BLUE	70, Phonetic-74	The infixes of this name pair have sufficient orthographic differences. The first and second syllables of this name pair sound different.

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

No.	Name	POCA Score (%)
1.	Prevacid 24Hr	50
2.	PROcalamine	51
3.	PROcardia	51
4.	PROcysbi	52
5.	PROVil	57
6.	PROVocholine	56
7.	Prevacid 24 Hr	50
8.	PROcalamine 3	51

No.	Name	POCA Score (%)
9.	PROfilnine	52
10.	PROnto Plus	53
11.	PROpantheline	50
12.	PROxacol	50
13.	BROVex Pse	51

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

No.	**Proposed name: ProvayBlue** **Established name: Methylene Blue** **Dosage form: Solution for injection** **Strength(s): 50 mg/10 mL (5 mg/mL)** **Usual Dose:** **Adults and Children** (b) (4) (b) (4) 1 mg/kg (b) (4)) intravenously over a period of 5 minutes. A repeat dose of up to 1 mg/kg (b) (4) may be given one hour after the first dose (b) (4)	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
1.	Pravachol	54	The suffixes of this name pair have sufficient orthographic differences. The third syllables of this name pair sound different.
2.	Pregabalin	51	The prefixes, infixes and suffixes of this name pair have sufficient orthographic differences. Pregabalin has 4 syllables and ProvayBlue has 3 syllables.
3.	Prevalite	62	The suffixes of this name pair has sufficient orthographic differences The third syllable of this name has sufficient phonetic differences.
4.	Privine	50	The prefixes and suffixes of this name pair have sufficient orthographic differences. The first and third syllables of this name pair sound different.

No.	**Proposed name: ProvayBlue** **Established name: Methylene Blue** **Dosage form: Solution for injection** **Strength(s): 50 mg/10 mL (5 mg/mL)** **Usual Dose:** **Adults and Children** (b) (4) 1 mg/kg (b) (4) intravenously over a period of 5 minutes. A repeat dose of up to 1 mg/kg (b) (4) may be given one hour after the first dose (b) (4)	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
5.	PROhance	52	The infixes and suffixes of this name pair have sufficient orthographic differences. Prohance has 2 syllables and ProvayBlue has 3 syllables.
6.	PROVenge	61	The infixes and suffixes of this name pair have sufficient orthographic differences. Provenge has 2 syllables and ProvayBlue has 3 syllables.
7.	PROVentil	54	The infixes and suffixes of this name pair have sufficient orthographic differences. The second and third syllables of this name pair sound different.
8.	PROVera	52	The infixes and suffixes of this name pair have sufficient orthographic differences. The second and third syllables of this name pair sound different.
9.	PROVigil	58	The suffixes of this name pair have sufficient orthographic differences. The third syllables of this name pair sound different.

No.	**Proposed name: ProvayBlue** **Established name: Methylene Blue** **Dosage form: Solution for injection** **Strength(s): 50 mg/10 mL (5 mg/mL)** **Usual Dose:** **Adults and Children** (b) (4) mg/kg (b) (4) intravenously over a period of 5 minutes. A repeat dose of up to 1 mg/kg (b) (4) may be given one hour after the first dose (b) (4)	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
10.	IntROVAle	52	The prefixes, infixes, and suffixes of this name pair have sufficient orthographic differences. Introvale has 4 syllables and ProvayBlue has 3 syllables.
11.	MembraneBLUE	52	The prefixes of this name pair have sufficient orthographic differences. The first and second syllables of this name pair sound different.
12.	Trypan BLUE	64	The prefixes and infixes of this name pair have sufficient orthographic differences. The first and second syllables of this name pair sound different.
13.	Urogesic BLUE	50	The prefixes and infixes of this name pair have sufficient orthographic differences. Urogesic Blue has 5 syllables and ProvayBlue has 3 syllables.
14.	Urolene BLUE	56	The prefixes and infixes of this name pair have sufficient orthographic differences. Urolene Blue has 4 syllables and ProvayBlue has 3 syllables.

No.	**Proposed name: ProvayBlue** **Established name: Methylene Blue** **Dosage form: Solution for injection** **Strength(s): 50 mg/10 mL (5 mg/mL)** **Usual Dose:** **Adults and Children** (b) (4) 1 mg/kg (b) (4) intravenously over a period of 5 minutes. A repeat dose of up to 1 mg/kg (b) (4) may be given one hour after the first dose (b) (4)	**POCA Score (%)**	**Prevention of Failure Mode** **In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names**
15.	Vision BLUE	52	The prefixes and infixes of this name pair have sufficient orthographic differences. The first and second syllables of this name pair sound different.
16.	VisionBLUE	52	The prefixes and infixes of this name pair have sufficient orthographic differences. The first and second syllables of this name pair sound different.
17.	Predate-50	50	The infixes and suffixes of this name pair have sufficient orthographic differences. The second and third syllables of this name pair sound different.
18.	PROcarbazine	54	The infixes and suffixes of this name pair have sufficient orthographic differences. Procarbazine has 4 syllables and ProvayBlue has 3 syllables.
19.	PROpranolol	50	The infixes and suffixes of this name pair have sufficient orthographic differences. Propranolol has 4 syllables and ProvayBlue has 3 syllables.

No.	Proposed name: ProvayBlue Established name: Methylene Blue Dosage form: Solution for injection Strength(s): 50 mg/10 mL (5 mg/mL) Usual Dose: Adults and Children (b) (4) (b) (4) 1 mg/kg intravenously over a period of 5 minutes. A repeat dose of up to 1 mg/kg (b) (4) may be given one hour after the first dose (b) (4)	POCA Score (%)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
20.	PROtenate	51	The infixes and suffixes of this name pair have sufficient orthographic differences. The second and third syllables of this name pair sound different.
21.	PROzac Weekly	54	The infixes and suffixes of this name pair have sufficient orthographic differences. Prozac Weekly has 4 syllables and Provayblue has 3 syllables.
22.	Prelone	50	The infixes and suffixes of this name pair have sufficient orthographic differences. Prelone has 2 syllables and ProvayBlue has 3 syllables.
23.	PROcentra	50	The infixes and suffixes of this name pair have sufficient orthographic differences. The second and third syllables of this name pair sound different.

No.	Proposed name: ProvayBlue Established name: Methylene Blue Dosage form: Solution for injection Strength(s): 50 mg/10 mL (5 mg/mL) Usual Dose: Adults and Children (b) (4) (b) (4): 1 mg/kg intravenously over a period of 5 minutes. A repeat dose of up to 1 mg/kg (b) (4) may be given one hour after the first dose (b) (4)	POCA Score (%)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
24.	Brevibloc	58	The infixes of this name pair have sufficient orthographic differences. ProvayBlue has a downstroke in 5th position, and Brevibloc does not contain a downstroke. Furthermore, the letter string 'ay' vs. letter 'i' in Brevibloc do not appear similar to each other. The second syllables of this name pair sound different.

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

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

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

No.	Name	POCA Score (%)	Failure preventions
1.	PiPROzoline	50	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.
2.	Prajmaline	50	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.
3.	Predalone 50	54	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases. The brand name is listed as deactivated per Redbook.
4.	Prevail	60	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.
5.	PRO 12 Mousse	52	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.
6.	PRO Vent Plus	58	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.

Reference ID: 3890234

No.	Name	POCA Score (%)	Failure preventions
7.	PRObalan	52	This name was identified in Drugs at FDA database. However, we were unable to find complete product characteristics in commonly used drug databases and the application status is approved.
8.	PRObanthine	50	This name was identified in RX Norm. However, this product is listed as discontinued in Drugs at FDA and had been withdrawn FR effective 6/10/99
9.	PRO-Banthine	50	This name was identified in the Drugs at FDA database. However, this product is listed as discontinued in Drugs at FDA and was withdrawn FR effective 6/10/1999.
10.	PRObeta La	56	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.
11.	PROcyclidine	52	This name was identified in RX Norm. However, the brand name was discontinued with no generic equivalents available.
12.	PROfen Ii	50	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.

No.	Name	POCA Score (%)	Failure preventions
13.	PROfen La	57	This name was identified in RX Norm. However, the brand name was discontinued with no generic equivalents available.
14.	PROfenal	53	This name was identified in Drugs at FDA and Rx Norm database. However, the brand name is discontinued with no generic equivalents available.
15.	PROflavine	52	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.
16.	PROgabide	56	This product is an international drug formerly marketed in France.
17.	PROglumide	50	This product is an international drug formerly marketed in Portugal, Spain, Germany, Italy, Austria, France, and Spain.
18.	PROguanil	52	This product is an international drug formerly marketed in Austria, Australia, Denmark, Finland, Ireland, Italy, New Zealand, Malaysia, Norway, Portugal, South Africa, Sweden, and Switzerland.

No.	Name	POCA Score (%)	Failure preventions
19.	PROgynOVA	52	This product is an international drug marketed in Finland, Argentina, Australia, Austria, Belgium, Chile, China, France, Germany, Indonesia, Israel, Italy, Malaysia, New Zealand, Netherlands, Philippines, Poland, Russia, Singapore, Switzerland, Thailand, UK, and Ukraine.
20.	(b) (4)	52	The proposed name for NDA (b) (4) was withdrawn from the sponsor (OSE # (b) (4) on (b) (4). NDA (b) (4) is complete response.
21.	PROline	50	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.
22.	PROlintane	50	This product is an international drug formerly marketed in Belgium, South Africa, Australia, Switzerland, France, and UK.
23.	PROmazine	51	This name was identified in RX Norm. However, this product is listed as discontinued in Drugs at FDA and had been withdrawn FR effective 10/19/98
24.	PROpamidine	50	This is an international drug marketed in UK.

No.	Name	POCA Score (%)	Failure preventions
25.	PROpanix La	52	This name was identified in the RxNorm database. However, we were unable to find product characteristics in commonly used drug databases.
26.	PROpionate	52	This product is not a drug. It is a small salt or ester of propionic acid.
27.	PROpoflo	52	This product is used as IV anesthetic injection for use in dogs.
28.	PROpylene	58	This product is not a drug. It is used as a pharmaceutical excipient.
29.	PROsaid	51	This is an international drug formerly marketed in UK.
30.	PROstaphlin	54	This name was identified in Rx Norm database. However, this product is listed as discontinued in Drugs at FDA. It was withdrawn FR effective 9/29/1995.
31.	PROtamone	52	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.
32.	PROthiaden	52	This is an international drug marketed in Australia, India, Malaysia, South Africa, Singapore, Japan, UK, Netherlands, and Czech Republic.

No.	Name	POCA Score (%)	Failure preventions
33.	PROtilase	54	This name was identified in RX Norm. However, this product is discontinued per Red Book. There are no generic equivalents available.
34.	PROVAl #3	60	This name was identified in Drugs at FDA database. However, this product is listed as discontinued in Drugs at FDA and had been withdrawn FR effective on 8/4/1999.
35.	(b) (4)	88, Phonetic-88 Orthographic-88	The proposed name was found unacceptable by OPDP (OSE # 2013-2553). The applicant submitted an alternative name, (b) (4) which was found unacceptable by DMEPA (OSE # 2015-1719756). Thus, the Applicant submitted the name, ProvayBlue*** which is also the subject of this review.
36.	PRO-Vent	50	This is an international drug formerly marketed in UK and Ireland.
37.	1-PROpanol	53	This product is not a drug, but is a primary alcohol. It is used as a solvent in the pharmaceutical industry for resins and cellulose esters.
38.	C.I. Acid BLUE 324	52	This product is not a drug. It is a dye.
39.	Disperse BLUE 106	50	This product is not a drug. It is a dark blue textile dye founds in fabrics colored dark blue, brown, black, purple, and some greens.

No.	Name	POCA Score (%)	Failure preventions
40.	Evans BLUE	55	This name was identified in Rx Norm database. However, this product is listed as discontinued in Drugs at FDA. It was withdrawn FR effective 11/15/1990.
41.	Steripod BLUE	52	This name was identified in RX Norm. However, we were unable to find complete products characteristics in commonly used databases.
42.	Uro BLUE	52	This name was identified in Rx Norm. However, we were unable to find product characteristics in commonly used drug databases.
43.	Uro-BLUE	52	This name was identified in Rx Norm. However, we were unable to find product characteristics in commonly used drug databases.
44.	Predone	50	This product is an international drug marketed in India.
45.	Prepodyne	50	This is an internal drug formerly marketed in Canada.
46.	Prevacare R	52	This name was identified in Drugs@FDA. However, the brand name is discontinued with no generic equivalents in the same concentration.

No.	Name	POCA Score (%)	Failure preventions
47.	PROcaterol	50	This product is an international drug marketed in Indonesia, China, Japan, Czech Republic, Hong Kong, Philippines, and Indonesia.
48.	PROp-A-Tane	51	This name was identified in RX Norm. However, we were unable to find complete product characteristics in commonly used databases.
49.	PROpatard La	54	This name was identified in RX Norm. However, we were unable to find complete product characteristics in commonly used databases.
50.	PROpyl Gallate	53	This product is not a drug. It is an antioxidant used in foods, cosmetics, hair products, adhesives, and lubricants.
51.	Psoradrate	50	The product is an international drug formerly marketed in the UK.
52.	Pyruvate	52	This product is not a drug. It is a compound in biochemistry which is the anion of pyrivuc acid. It the end product of glycolysis.
53.	Prednazoline	50	This product is an international drug formerly marketed in Brazil.

No.	Name	POCA Score (%)	Failure preventions
54.	Pre-Sate	50	This name was identified in Drugs at FDA database. However, this product is listed as discontinued in Drugs at FDA and had been withdrawn FR effective on 11/5/92.
55.	Prevacid Iv	50	This name was identified in Drugs at FDA database. However, this product is listed as discontinued in Drugs at FDA and had been withdrawn FR effective on 7/8/11.
56.	Prevail-Fx	51	This name was identified in RX Norm. However, we were unable to find complete product characteristics in commonly used databases.
57.	(b) (4)	50	This name was found unacceptable by DMETS (b) (4) This application received a complete response on (b) (4)
58.	PROcaine	50	This name was identified in Drugs at FDA database. However, this product is listed as discontinued in Drugs at FDA and had been withdrawn FR effective on 4/15/95.
59.	PROfenamine	50	This product is an international drug marketed in Japan and Canada.
60.	PROmace	52	This product is for veterinary use.

No.	Name	POCA Score (%)	Failure preventions
61.	PROnto Spray	50	This name was identified in RX Norm. However, we were unable to find complete product characteristics in commonly used databases.
62.	PROpade	56	This name was identified the Red Book. However, the brand is discontinued with no generic equivalents available.
63.	PROpane	54	This product is not a drug. It is a group of liquefied petroleum gases.
64.	PROstamate	52	This product is for veterinary use.
65.	(b) (4)	88, Phonetic-88, Orthographic-88	The proposed name was found unacceptable by DMEPA (OSE # 2015-1719756). Thus, the Applicant submitted the name, ProvayBlue*** which is also the subject of this review.
66.	PROxyphylline	52	This product is an international drug marketed in Mexico.
67.	Brillant BLUE	58	This name was identified in RX Norm. However, we were unable to find complete product characteristics in commonly used databases.

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

No.	Name	POCA Score (%)
1.	Bravelle	54
2.	Bromaline	50
3.	Travel-Eze	52
4.	Trelavue	50

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

No.	Name
1.	N/A

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/s/

NICOLE B GARRISON
02/19/2016

YELENA L MASLOV
02/22/2016

PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis (DMEPA)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

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

Date of This Review:	December 21, 2015
Application Type and Number:	NDA 204630
Product Name and Strength:	(b) (4) (Methylene Blue) Injection, 50 mg/10 mL (5 mg/mL)
Total Product Strength:	50 mg/10 mL
Product Type:	Single-Ingredient Product
Rx or OTC:	Rx
Applicant/Sponsor Name:	Provepharm SAS
Panorama #:	2015-1719756
DMEPA Primary Reviewer:	Nicole Garrison, PharmD, BCPS
DMEPA Team Leader:	Yelena Maslov, PharmD
DMEPA Deputy Director:	Lubna Merchant, PharmD, MS
DMEPA Director:	Todd Bridges, Rph

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