CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER: 022555Orig1s000

MICROBIOLOGY REVIEW(S)

Product Quality Microbiology Review

19 OCTOBER 2009

NDA: 22-555

Drug Product Name

Proprietary: Hexvix

Non-proprietary: Hexaminolevulinate

Review Number: 1

Dates of Submission(s) Covered by this Review

| Submit | Received | Review Request | Assigned to Reviewer |
|--------------|--------------|----------------|----------------------|
| 30 June 2009 | 30 June 2009 | 17 August 2009 | 10 July 2009 |

Submission History (for amendments only): N/A

Applicant/Sponsor

Name: Photocure ASA

Address: Hoffsveien 48, NO-0377 Oslo, Norway

Representative: Linda Sutton, Chief Regulatory Officer, Cato Research

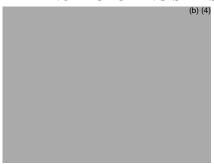
Telephone: 919-361-2286

Name of Reviewer: Bryan S. Riley, Ph.D.

Conclusion: Recommended for Approval

Product Quality Microbiology Data Sheet

- **A. 1. TYPE OF SUBMISSION:** New Drug Application 505(b)(1)
 - 2. SUBMISSION PROVIDES FOR: A parenteral drug product
 - 3. MANUFACTURING SITES:



- **4. DOSAGE FORM, ROUTE OF ADMINISTRATION AND STRENGTH/POTENCY:** Sterile lyophilized powder for injection in a glass vial (85 mg hexyl aminolevulinate/vial) and sterile solvent (50 mL/vial) in a glass vial or polypropylene vial.
- 5. METHOD(S) OF STERILIZATION:

 (b) (4)
- **6. PHARMACOLOGICAL CATEGORY:** Imaging Agent
- B. SUPPORTING/RELATED DOCUMENTS: Product Quality Microbiology reviews (b) (4)
- **C. REMARKS:** This was an eCTD submission. The drug product was previously reviewed for a different indication. The manufacturing processes for the drug product and solvent have not changed from a product quality microbiology standpoint.

filename: N022555R1.doc

Executive Summary

- I. Recommendations
 - **A.** Recommendation on Approvability This submission is recommended for approval on the basis of product quality microbiology.
 - B. Recommendations on Phase 4 Commitments and/or Agreements, if Approvable -N/A
- II. Summary of Microbiology Assessments
 - A. Brief Description of the Manufacturing Processes that relate to Product Quality Microbiology The drug product is sterile

(b) (4

- B. Brief Description of Microbiology Deficiencies N/A
- C. Assessment of Risk Due to Microbiology Deficiencies N/A
- III. Administrative

 - B. Endorsement Block _____ James L. McVey, NDMS Team Leader
 - C. CC Block N/A

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Immediately Following this Page

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| /s/ | | | | |
| BRYAN S RILEY | | | | |

JAMES L MCVEY 10/21/2009 I concur.

10/19/2009

PRODUCT QUALITY MICROBIOLOGY FILING CHECKLIST

NDA Number: 22-555 Applicant: Photocure ASA Letter Date: 30 June 2009

Drug Name: Hexvix NDA Type: 505(b)(1) Stamp Date: 30 June 2009

The following are necessary to initiate a review of the NDA application:

| | Content Parameter | Yes | No | Comments |
|---|---|-----|----|-----------------|
| 1 | Is the product quality microbiology information described in the NDA and organized in a manner to allow substantive review to begin? Is it legible, indexed, and/or paginated adequately? | X | | eCTD submission |
| 2 | Has the applicant submitted an overall description of the manufacturing processes and microbiological controls used in the manufacture of the drug product? | X | | |
| 3 | Has the applicant submitted protocols and results of validation studies concerning microbiological control processes used in the manufacture of the drug product? | X | | |
| 4 | Are any study reports or published articles in a foreign language? If yes, has the translated version been included in the submission for review? | | X | |
| 5 | Has the applicant submitted preservative effectiveness studies (if applicable) and container-closure integrity studies? | X | | |
| 6 | Has the applicant submitted microbiological specifications for the drug product and a description of the test methods? | X | | |
| 7 | Has the applicant submitted the results of analytical method verification studies? | X | | |
| 8 | Has the applicant submitted all special/critical studies/data requested during pre-submission meetings and/or discussions? | X | | |
| 9 | Is this NDA fileable? If not, then describe why. | X | | |

| Additional Comments: The submission referer indication for the same drug product). The dru and 22-555 are identical. | (b) (d) | |
|--|--------------|--|
| | · | |
| | 15 July 2009 | |
| Bryan S. Riley, Ph.D. | Date | |
| Senior Review Microbiologist | | |
| James L. McVey | Date | |
| OPS/NDMS Team Leader | | |

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/s/

Bryan Riley 7/20/2009 10:59:46 AM MICROBIOLOGIST

James McVey 7/20/2009 11:45:09 AM MICROBIOLOGIST I concur.