CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

21-910

MICROBIOLOGY REVIEW(S)

Product Quality Microbiology Review

June 13, 2006

NDA: **21-910-BI**

Drug Product Name
Proprietary: Normocarb HF™
Non-proprietary: Bicarbonate buffered physiologic saline solution

Drug Product Priority Classification: Standard

Review Number: 2

Dates of Submission(s) Covered by this Review

Letter	Stamp	Consult Sent	Assigned to Reviewer
5/31/06	6/1/06	6/1/06	6/1/06
6/12/06	6/13/06	6/13/06	6/13/06

Submission History (for amendments only):

Letter	Stamp	Consult Sent	Review Completed
9/26/05	9/26/05	10/20/05	5/22/06

Applicant/Sponsor
Name: Dialysis solutions Inc.
Address: 14 Emmett Place
Whitby, Ontario
L1R 2B4 Canada
Representative: Ann H. Rose
ViCro LLC

Telephone: 202-250-640

Name of Reviewer: Stephen E. Langille, Ph.D.

Conclusion: Recommended for approval

Product Quality Microbiology Data Sheet

A. 1. TYPE OF SUBMISSION: Amendment to original NDA

2. SUBMISSION PROVIDES FOR: [redacted] of the drug product

3. MANUFACTURING SITE:
Apotex Inc.
380 Elgin Mills Road East
Richmond Hill, Ontario
Canada L4C 5H2

4. DOSAGE FORM, ROUTE OF ADMINISTRATION AND STRENGTH/POTENCY:

- Sterile solution
- Intravenous infusion
- 25 mEq/L or 35 mEq/L

5. METHOD(S) OF STERILIZATION: [redacted]

6. PHARMACOLOGICAL CATEGORY: Adjunct therapy to hemofiltration

B. SUPPORTING/RELATED DOCUMENTS: This is the second submission (first amendment) to NDA 21-910.

C. REMARKS: The first product quality microbiology review of NDA 21-910 was completed on May 22, 2006.

filename: N021910R2.doc.

Executive Summary

I. Recommendations

A. Recommendation on Approvability -
NDA 21-910 is recommended for approval from the standpoint of product quality microbiology.

B. Recommendations on Phase 4 Commitments and/or Agreements, if Approvable -
Not applicable

II. Summary of Microbiology Assessments

A. Brief Description of the Manufacturing Processes that relate to Product Quality Microbiology -
The drug product is [redacted] and packaged in 240 mL glass vials with rubber stoppers.

B. Brief Description of Microbiology Deficiencies -
No deficiencies were identified based upon the information provided.

C. Assessment of Risk Due to Microbiology Deficiencies -
Not applicable

III. Administrative

A. Reviewer's Signature _____
Stephen E. Langille, Ph.D.

B. Endorsement Block _____
Bryan Riley, Ph.D.

C. CC Block
N/A

6 Page(s) Withheld

_____ Trade Secret / Confidential

_____ Draft Labeling

✓ Deliberative Process

Withheld Track Number: Microbiology- 1

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/s/

Stephen Langille
6/20/2006 10:36:53 AM
MICROBIOLOGIST

Product Quality Microbiology Review

19-May-2006

NDA: **21-910**

Drug Product Name
Proprietary: Normocarb HF™
Non-proprietary: Bicarbonate buffered physiologic saline solution
Drug Product Priority Classification: Standard

Review Number: 1

Dates of Submission(s) Covered by this Review

Letter	Stamp	Consult Sent	Assigned to Reviewer
9/26/05	9/26/05	10/20/05	10/20/05

Submission History (for amendments only): Not applicable

Applicant/Sponsor
Name: Dialysis solutions Inc.
Address: 14 Emmett Place
Whitby, Ontario
L1R 2B4 Canada
Representative: Ann H. Rose
ViCro LLC

Telephone: 202-250-640

Name of Reviewer: Stephen E. Langille, Ph.D.

Conclusion: Approvable pending revision

Product Quality Microbiology Data Sheet

A. 1. **TYPE OF SUBMISSION:** Original NDA

2. **SUBMISSION PROVIDES FOR:** [redacted] of the drug product

3. **MANUFACTURING SITE:** Apotex Inc.
380 Elgin Mills Road East
Richmond Hill, Ontario
Canada L4C 5H2

4. **DOSAGE FORM, ROUTE OF ADMINISTRATION AND STRENGTH/POTENCY:**

- Sterile solution
- Intravenous infusion
- 25 mEq/L or 35 mEq/L

5. **METHOD(S) OF STERILIZATION:** [redacted]

6. **PHARMACOLOGICAL CATEGORY:** Adjunct therapy to hemofiltration

B. **SUPPORTING/RELATED DOCUMENTS:** None

C. **REMARKS:**

filename: N021910R1.doc.

Executive Summary

I. Recommendations

A. Recommendation on Approvability -
NDA 21-910 is approvable pending the resolution of product quality microbiology deficiencies.

B. Recommendations on Phase 4 Commitments and/or Agreements, if Approvable -
Not applicable

II. Summary of Microbiology Assessments

A. Brief Description of the Manufacturing Processes that relate to Product Quality Microbiology -
The drug product is [redacted] and packaged in 240 mL glass vials with rubber stoppers.

B. Brief Description of Microbiology Deficiencies -
The applicant failed to provide adequate information regarding process simulation methodology, stability commitments, filter integrity testing, closure [redacted] and product holding times.

C. Assessment of Risk Due to Microbiology Deficiencies -
Failure to address the product quality microbiology deficiencies could result in microbial and/or endotoxin contamination of the drug product.

III. Administrative

A. Reviewer's Signature _____
Stephen E. Langille, Ph.D.

B. Endorsement Block
Bryan Riley, Ph.D.

C. CC Block
N/A

13 Page(s) Withheld

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✓ Deliberative Process

Withheld Track Number: Microbiology- 2

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/s/

Stephen Langille
5/22/2006 02:57:16 PM
MICROBIOLOGIST

Bryan Riley
5/22/2006 03:08:19 PM
MICROBIOLOGIST