CENTER FOR DRUG EVALUATION AND RESEARCH

APPROVAL PACKAGE FOR:

APPLICATION NUMBER
21-064

Microbiology Review(s)
REVIEW FOR HFD-160
OFFICE OF NEW DRUG CHEMISTRY
MICROBIOLOGY STAFF
MICROBIOLOGIST'S REVIEW #2 OF NDA

August 25, 1999

A. 1. **NDA** 21-064 Amendment BI

**SPONSOR** Dupont Pharmaceuticals Company
331 Treble Cove Road
North Billerica, MA 01862

2. **PRODUCT NAMES:** DEFINITY™ (Perflutren)

3. **DOSAGE FORM AND ROUTE OF ADMINISTRATION:** Injectable Suspension IV

4. **METHOD(S) OF STERILIZATION:**

5. **PHARMACOLOGICAL CATEGORY:** Ultrasound Contrast Agent

6. **DRUG PRIORITY CLASSIFICATION:**

B. 1. **DATE OF INITIAL SUBMISSION:** December 9, 1998

2. **DATE OF AMENDMENT:** July 19, 1999

3. **RELATED DOCUMENTS:** Microbiologist's review #1 of NDA (April 5, 1999)

4. **ASSIGNED FOR REVIEW:** July 21, 1999

C. **REMARKS:** This review covers the sponsors answers to microbiology deficiencies in the original NDA.
D. **CONCLUSIONS**: This submission is recommended for approval on the basis of sterility assurance.

\[Signature\] 8-25-99

Bryan Riley, Ph.D.

cc:
- HFD 160/Consult File
- HFD 160/K. Cho
- HFD 160/R. Kastiwal
- HFD 805/Consult File
- HFD 805/B. Riley

Drafted by: B. Riley, 8/25/99

R/D initialed by: P. Cooney,

\[Signature\] 8-27-99
REVIEW FOR HFD-160
OFFICE OF NEW DRUG CHEMISTRY
MICROBIOLOGY STAFF
MICROBIOLOGIST'S REVIEW #1 OF NDA

April 5, 1999

A. 1. **NDA** 21-064
   
   **SPONSOR** Dupont Pharmaceuticals Company
   331 Treble Cove Road
   North Billerica, MA 01862

   2. **PRODUCT NAMES:** DEFINITY™ (Perflutren)

   3. **DOSAGE FORM AND ROUTE OF ADMINISTRATION:** Injectable Suspension, IV

   4. **METHOD(S) OF STERILIZATION:**

   5. **PHARMACOLOGICAL CATEGORY:** Ultrasound Contrast Agent

   6. **DRUG PRIORITY CLASSIFICATION:**

B. 1. **DATE OF INITIAL SUBMISSION:** December 9, 1998

   2. **DATE OF AMENDMENT:** N/A

   3. **RELATED DOCUMENTS:** None

   4. **ASSIGNED FOR REVIEW:** December 11, 1998

C. **REMARKS:** Definity™ consists of: Perfluoropropane gas, a mixture of three lipids, saline, propylene glycol, and glycerin. The drug product is [and then]
D. CONCLUSIONS: This application is approvable on the basis of sterility assurance, pending resolution of certain microbiology issues. Please see "Microbiologist's List of Deficiencies".

\[\underline{\text{15}}\]

Bryan Riley, Ph.D.

\[\underline{\text{11/8/99}}\]

cc:
HFD 160/Consult File
HFD 160/K. Cho
HFD 160/R. Kasliwal
HFD 805/Consult File
HFD 805/B. Riley

Drafted by: B. Riley, 4/5/99
R/D initialed by: P. Cooney,