NOCK- WRS - I 27-1 I 27-1



Quality control department Working standard Certificate of Analysis

| PRODUCT NAME | IRINOTECAN | STANDARDIZED DATE | 14/10/2016 |
|------------------|-------------------------------|----------------------------------|----------------|
| BATCH NUMBER | 4000P16F2003 | W.S. NO. | WS-027-16 |
| W.S. RETEST DATE | Oct 2016 | W.S. USE BEFORE | 13/09/2017 |
| MANUFACTURED BY | VMG Pharmaceuticals Pvt. Ltd. | PRIMARY LOT. NO./ TRACEBILITY | R022P0/ USP |

| TESTS | SPECIFICATIONS | RESULTS |
|---|---|--|
| Description | A pale yellow to yellow crystalline powder. | A pale yellow crystalline powder. |
| Solubility | Soluble in water | Complies |
| Identification A) By IR B) By HPLC C) Chlorides | Infrared spectrum of the sample should match with that of the standard spectrum. In the assay, the principle peak in the chromatogram obtained with the test solution corresponds to the peak in the chromatogram obtained with reference solution. A white curdy precipitate is formed. | Infrared spectrum of the sample should match with that of the standard spectrum. In the assay, the principle peak in the chromatogram obtained with the test solution corresponds to the peak in the chromatogram obtained with reference solution. A white curdy precipitate is formed. |
| Residue on Ignition | NMT 0.1 % | 0.08% |
| Heavy Metals | NMT 10 ppm | 8 ppm |
| Limit of Irinotecun Hydrochloride enantiomer | R-enantiomer 0.15% | Not Detected |
| Organic Impurities Irinotecan Related Compound B Irinoteca Related | NMT 0.15 % | BDL* |
| Compound C Any unspecified impurity Total Impurities | NMT 0.10% NMT 0.5% | 0.05 0.07 |
| Microbial Enumeration Tests: a) Total aerobic microbial count b) Total yeast and mold count | NMT 1000 cfu per gram | 610 cfu per gram 12 cfu per gram |
| Water (% W/W By KF) | 7.0 % to 9.0 % | 7.19% w/w |
| Assay By HPLC (As Irinotecan On anhydrous basis) | Not less than 98% and Not More than 102.0% calculated on anhydrous basis | 99.8 % (Irinotecan OAB) |

BDL* Below Detection Limit

REMARKS: The above working standard complies with USP specifications.

Analyzed By: Deepshikha Designation: QC Chemist Date: 14/10/2016



Approved By: Nish PhiDIA
Designation: QA Manager
Date: 14/10/2016