5.2 Summary of Product Characteristics:

5.2.1. Name of the Medicinal Product

1.1 Product Name: FEMIFER

1.2 Strength: Each 5 ml contains 50 mg of Iron (III) Hydroxide Polymaltose Complex equivalent to elemental iron and 0.5 mg of Folic acid

1.3Pharmaceutical Dosage Form: Syrup

5.2.2. Quality and Quantitative Composition:

Qualitative Declaration: Complies to IHS Specifications
Quantitative Declaration:
Each 5ml contains:

Iron (III) Hydroxide Polymaltose complex		
Eq. to. Elemental Iron		50 mg
Folic Acid	BP	0.5 mg
Flavoured Syrupy Base		Q.S.

5.2.3Pharmaceutical Form: Brown coloured viscous liquid containing flavoured syrupy base.

5.2.4 Clinical Particulars:

4.1 Therapeutic indications

FEMIFER is indicated for

- The treatment of latent and manifest iron deficiency and prevention of iron and folic acid deficiency before, during and after pregnancy (during lactation).
- Iron deficiency anemia including
  (I) Macrocytic anemia
  (II) Anemia due to excessive hemorrhage
  (III) Anemia associated with infections
  (IV) Anemia associated with malignant disease

4.2 Contraindications

FEMIFER is contraindicated in:

- Iron overload (e.g. haemochromatosis, haemosiderosis)
- Disturbances in iron utilization (e.g. lead anemia, sideroacrestic anemia, thalasaemia)
- Anemia not caused by iron deficiency (e.g. haemolytic anemia)
- Megaloblastic anaemia due to Vitamin B 12 deficiency

4.3 Dosage & Administration

Dosage and duration of therapy are dependent upon the extent of iron deficiency. The daily dose can be divided into separate doses or can be taken at one time. In cases of manifested iron deficiency the therapy takes about 3-5 months until a normalization of the hemoglobin value is achieved. Afterwards the therapy should be continued for several weeks with dosage such as described for latent iron deficiency to replenish the iron stores.

Age Group	Daily Dose
Infants (up to 1 years)	1/2 to 1 teaspoon full (2.5 - 5.0 ml)
Children (upto 1- 12 years)	1 to 2 teaspoon full (5 - 10 ml)
Children (up 12 years and nursing mothers	2 to 3 teaspoon full (10 - 15 ml)
Pregnant women	3 to 4 tea spoon full (15 - 20 ml)

4.4 Interaction with other medicinal products and other forms of Interactions

Until now interactions have not been observed:

- Since the iron is complex-bound, ionic interactions with foodstuff components (phytin, exalates, tannin etc.) and concomitant administration of medicament (Tetracycline, antacids) are unlikely to occur.
- This syrup does not cause teeth staining.
- The haemoccult-test (selective for haemoglobin) for the detection of occult blood is not impaired and therefore-iron therapy must not be interrupted.

4.5 Pregnancy and lactation

Reproduction studies in animals did not show any foetal risk. Controlled studies in pregnant women after the first trimester have not shown any undesirable effects on mother and neonates. There is no evidence of a risk during the first trimester and the possibility of a negative influence to the foetus is unlikely to occur.
Mother's milk contains iron bound to lactoferrin. It is not known how much iron from the complex is passed into mother's milk. The administration of this Syrup is unlikely to cause undesirable effects to the nursed child.
During pregnancy and lactation, this combination should be used on prescription.

4.6 Overdose

In cases of overdose neither intoxication nor iron overload have been reported up to-date.

4.7 Adverse effects

Occasional side-effects include:

- Gastrointestinal irritation
- Sensation of repletion
- Pressure in the epigastric region
- Nausea
- Constipation and Diarrhea

5 Pharmacological Properties:

5.1 Pharmacodynamic Properties

In FEMIFER, the Polynuclear iron(III)-hydroxide core is superficially surrounded by a number of non-covalently bound Polymaltose molecules resulting in an overall average molecular weight which is so large that the extent of diffusion through the membrane of the mucosa is about 40 times less than that of the hexaquo-iron(II) complex. Iron polymaltose is stable and does not release large amounts of iron under physiological conditions. The polynuclear core of iron polymaltose is hypothesized to have a structure similar to that of the core of the physiological iron storage protein, ferritin. Folic Acid in this Syrup is an important vitamin for the development of an unborn child. Folic Acid deficiency in the first weeks of pregnancy can lead to malformation in the child.

5.2 Pharmacokinetic Properties

The iron absorbed from iron polymaltose (referred to FEMIFER) is used in the bone marrow for haemoglobin (Hb) synthesis or is stored, mainly in the liver, bound to ferritin. Iron that is not absorbed is excreted via the faeces. The iron of FEMIFER is absorbed by a controlled mechanism. Studies with radio - labeled iron Polymaltose showed that there is a good correlation between the percentage of erythrocyte uptake (incorporation in Hb) and the absorption quantified by whole body count. The highest absorption of iron from iron Polymaltose is in the duodenum and ileum. As with other oral iron preparations, the relative absorption of iron from FEMIFER, measured as incorporation in Hb, decreased with increasing doses of iron. A correlation between the extent of iron deficiency and the relative amount of iron absorbed was also observed (i.e., the higher the iron deficiency, the better the relative absorption).

Absorption of iron from FEMIFER is markedly reduced in humans. Iron uptake of FEMIFER has been assessed with different Iron (III) Hydroxide Polymaltose Complex formulations. The information reported below is directly related to FEMIFER products. The fasting and fed plasma iron concentration-time curves showed markedly reduced absorption of iron from FEMIFER liquid compared with ferrous sulfate/ascorbic acid liquid over the first 8 hours following single oral doses in healthy young men with experimentally induced iron deficiency anaemia. In the fasting state, only 1.2 ± 1.0% (mean ± SD) of the iron from FEMIFER liquid was absorbed compared with 43.7% ± 7.1% of the iron from ferrous sulfate/ascorbic acid liquid formulation ($p < 0.001$). In the fed state, 8.8 ± 4.7% of the iron from FEMIFER liquid was absorbed compared with 43.0 ± 5.0% of the iron from ferrous sulfate/ascorbic acid liquid formulation ($p < 0.001$).

The results suggest that greater absorption of iron over the first 8 hours following administration occurs when FEMIFER liquid is administered with food compared with the fasting state. Administering FEMIFER with food in iron deficient subjects increases iron uptake into erythrocytes.Similar results were noted after 28 days of oral treatment with iron utilization (Hb levels and serum ferritin concentrations) being higher in the FS group (17%) compared to FEMIFER (12%).

5.3 Preclinical safety Data

Non-clinical data reveal no special hazard for humans based on conventional studies of repeated dose toxicity, genotoxicity and toxicity to reproduction and development.

6.0 Pharmaceutical Particulars

6.1 List of excipients

Sucrose
Sodium Methyl Hydroxy Benzoate
Sodium Propyl Paraben
Bronopol
Di Sodium Edetate
Sodium Metabisulphite
Sodium Citrate
Sorbitol Solution (70%) Non - Crystallising
Anhydrous Citric acid
Xanthan Gum FNCS
Chocolate Flavour
Purified water

6.2 Incompatibilities

None

6.3 Shelf life

2 years

6.4 Special precautions for storage

Store below 30^{o}C temperature in tightly closed container, protected from light.

6.5 Nature and contents of container

200 ml Amber PET bottle packed in the carton.

6.6 Special precautions for disposal and other handling

None

7.0 Marketing Authorization Holder

BEKRA PHARMA UK LTD.
13/091, Lavington Road,
Beddington,
LONDON.
UNITED KINGDOM

8.0 Name and address of Manufacture

Baroque Pharmaceuticals Pvt. Ltd
192/2 & 3, Sokhada-388 620 Tal: Khambhat,
Dist. Anand Gujarat.
India.

9.0 Date of revision of the text
