### Alert
There is no folic acid in Penta-vite and Brauer Baby & Toddler Liquid Multivitamin, two commonly used multivitamin preparations in New South Wales. Human milk fortifiers contain folate and provide 44-64 microgram/kg/day of folate at 150 mL/kg/day of fortified human milk.

### Indication
1. Prevention and treatment of folic acid deficiency including megaloblastic anaemia.
2. Nutritional treatment of anaemia when folic acid intake may be inadequate.
3. Supplementation following severe haemolysis – unclear evidence.

### Action
Folate (Vitamin B9) is necessary for the synthesis of purines and thymine required for DNA formation. It is necessary for red cell maturation and promotion of cellular growth. The active form of folate is tetrahydrofolate [1, 2]. Supplemental folate is more bioavailable than folate normally present in food (85% versus 50%). Folinic acid is a metabolically active reduced form of folate that bypasses dihydrofolate reductase. Folate and folic acid have a protective and probably similar effect against methotrexate related adverse effects in patients with inflammatory disease [3, 4]. As folic acid is expensive, folate may be preferred.

### Drug Type
Vitamin B9

### Trade Name
Blackmores Folate Tablets; Foltabs Tablets; Megafol Tablets; Folic Acid Oral Solution; Folic Acid Injection Biological Therapies; Folic Acid Injection Phebra

### Presentation
- 5 mg/mL 1 mL vial [Phebra] (each vial contains 34.5 mg/mL of sodium)
- 15 mg/mL 1 mL vial [Biological Therapies] (each vial contains 2.4 mg/mL of sodium)
- 0.05mg/mL (50microgram/mL) or 1 mg/mL oral solution can be prepared by pharmacy.
- 500 microgram Megafol tablet, 5mg Megafol tablet

### Dosage/Interval
**Enteral supplementation for very low birthweight infants**
- 50 micrograms/kg/day (Recommended Daily Intake: 35-100 micrograms/kg/day)

**Treatment of folic acid deficiency:**
- 100 microgram/day (not per kg)

*Estimated enteral intakes based on 100 mL/kg human milk and 150 mL/kg fortified human milk are 8.5-16 and 44-64 microgram/kg/day respectively.*

### Route
Oral

### Maximum Daily Dose

### Preparation/Dilution
**Option 1 (using the vials for injection)**
In-house pharmacy can prepare an oral solution using the vials for injection as follows:

**Note:** pH of solution needs be adjusted to 8-8.5 using sodium hydroxide. This can be done by adding WFI to approximately 90% of final volume, measure pH, adjust pH if necessary, then make to final volume.

1mg/mL oral solution:
- Add 30 mg of folic acid to water for injection to make a final volume of 30 mL giving final concentration of 1 mg/mL.
- 0.05mg/mL (50microgram/mL) oral solution:
  - Add 5 mg of folic acid to water for injection to make a final volume of 100 mL giving final concentration of 0.05mg/mL (50microgram/mL).

**Option 2 (using tablets or powder)**
In-house pharmacy can prepare a Syr spend SF PH4 formula using folic acid tablets or powder to prepare a 1mg/mL oral suspension:

- Add 30 mg of folic acid powder to Syr spend SF PH4 to make a final volume of 30 mL giving final concentration of 1 mg/mL suspension.

### Administration
PO: Administer orally with or without feeds

### Monitoring
No specific monitoring required.
Contraindications
No information.

Precautions
No information.

Drug Interactions
Phenytoin: Concurrent use of folic acid and phenytoin may result in decreased folate concentrations and decreased phenytoin effectiveness.
Phenobarbital (phenobarbitone): Folic acid may decrease phenobarbital (phenobarbitone) concentration and its therapeutic effect; monitor phenobarbital (phenobarbitone) concentration and clinical effect.

Adverse Reactions
Toxicity from over dosage is not reported in newborns. In preterm infants, high folate concentrations have been associated with low zinc [5]. Weight loss, neurological, gastrointestinal and psychological symptoms were also reported in adults on high doses [6].

Compatibility
Not applicable.

Incompatibility
Not applicable.

Stability
The compounded option using injections is stable for 30 days and the Syrspend PH4 formula is stable for 90 days. Refrigerate. Protect from light.

Storage
Refrigerate (2–8°C) oral solution prepared in-house.
Tablets store below 25°C.

Special Comments
Evidence summary
Refer to full version.

References
Refer to full version.