

NEW ZEALAND DATA SHEET

1. PRODUCT NAME

DBL™ Potassium Dihydrogen Phosphate Concentrated Injection

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

The molecular formula of potassium phosphate monobasic is KH_2PO_4 . Its molecular weight is 136.1. The CAS Registry number of potassium phosphate monobasic is 7778-77-0.

Each DBL™ Potassium Dihydrogen Phosphate Concentrated Injection 10 mL ampoule contains 1.361 g of potassium phosphate monobasic (KH_2PO_4) in Water for Injection. Each mL of injection contains 1 mmol of potassium ions, 1 mmol of phosphate ions and 2 mmol of hydrogen ions.

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

DBL™ Potassium Dihydrogen Phosphate Concentrated Injection is a clear, colorless, sterile solution for injection. The pH of the solution is approximately 4.5.

Potassium phosphate monobasic is a white, odourless, granular or crystalline powder, or colourless crystals. It is freely soluble in water and practically insoluble in alcohol.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Treatment of severe hypophosphataemia (serum levels less than 0.3 mmol/L) and other degrees of hypophosphataemia when oral therapy is not possible.

The cause of hypophosphataemia should be identified and treated.

4.2 Dose and method of administration

Dose

DBL™ Potassium Dihydrogen Phosphate Concentrated Injection is administered by slow intravenous infusion. The injection must be diluted before use. For the treatment of severe hypophosphataemia, the following doses are suggested.

Adults: up to 10 mmol phosphate administered over 12 hours. The dose may be repeated at 12 hour intervals until serum phosphate exceeds 0.3 mmol/L.

Children: 0.15-0.33 mmol/kg administered over 6 hours. The dose may be repeated at 6 hour intervals until serum phosphate exceeds 0.6 mmol/L. The dose should not exceed the maximum recommended adult dose. The rate of infusion should not exceed 0.2 mmol/kg/h.

Renal Impairment: dose should be reduced. Use of phosphates in severe renal impairment is contraindicated (see section 4.3).

Dilution: DBL™ Potassium Dihydrogen Phosphate Concentrated Injection must be diluted before use. The drug can be given in 0.9% sodium chloride or 5% glucose solution. It should be administered by slow infusion to avoid phosphate intoxication.

Monitoring: Serum sodium, potassium, phosphate and calcium concentrations and renal function should be monitored every 12 to 24 hours during therapy.

Conversion to oral phosphate therapy should occur as soon as possible.

4.3 Contraindications

Phosphate administration is contraindicated in patients with severe renal function impairment (less than 30% normal) since there is an increased risk of hyperphosphataemia in these patients.

Phosphate administration is contraindicated in patients with hyperphosphataemia, since phosphate therapy will exacerbate the condition.

Phosphate administration is contraindicated in patients with hypocalcaemia due to the close relationship between hypocalcaemia and hyperphosphataemia.

DBL™ Potassium Dihydrogen Phosphate Concentrated Injection is contraindicated in patients with hyperkalaemia, since the potassium in the injection may exacerbate the condition.

DBL™ Potassium Dihydrogen Phosphate Concentrated Injection is contraindicated in Addison's disease since there is an increased risk of hyperkalaemia in these patients.

Phosphate administration is contraindicated in urolithiasis (magnesium ammonium phosphate type, infected) since it may exacerbate the condition.

4.4 Special warnings and precautions for use

Phosphate should be administered with caution in conditions where high phosphate levels may be encountered, such as hypoparathyroidism, chronic renal disease, and rhabdomyolysis.

Phosphate should be administered with caution in conditions where low calcium levels may be encountered, such as hypoparathyroidism, osteomalacia, chronic renal disease, acute pancreatitis, rhabdomyolysis and rickets.

DBL™ Potassium Dihydrogen Phosphate Concentrated Injection should be administered with caution in conditions where high potassium levels may be encountered, such as acute

dehydration, pancreatitis, rhabdomyolysis, severe renal insufficiency and extensive tissue damage (such as severe burns).

DBL™ Potassium Dihydrogen Phosphate Concentrated Injection should be administered with caution in patients with myotonia congenita, and heart disease (particularly in digitalised patients) (see section 4.5) since these conditions may be exacerbated by the potassium in the injection.

Effects on laboratory tests

Saturation of bone binding sites by phosphate ions may cause decreased bone uptake of technetium Tc^{99m} labelled contrast agents in bone imaging.

4.5 Interaction with other medicines and other forms of interaction

Angiotensin converting enzyme (ACE) inhibitors:

Concurrent use with DBL™ Potassium Dihydrogen Phosphate Concentrated Injection may result in hyperkalaemia, especially in patients with renal impairment.

Calcium containing medicines:

Concurrent use of DBL™ Potassium Dihydrogen Phosphate Concentrated Injection and calcium containing medicines may increase the risk of deposition of calcium in soft tissues.

Digitalis glycosides:

The administration of DBL™ Potassium Dihydrogen Phosphate Concentrated Injection in digitalised patients with severe or complete heart block may result in hyperkalaemia.

Diuretics, potassium sparing:

Concurrent use with DBL™ Potassium Dihydrogen Phosphate Concentrated Injection may result in hyperkalaemia, especially in patients with renal impairment.

Non-steroidal antiinflammatory agents (NSAIDs):

Concurrent use with DBL™ Potassium Dihydrogen Phosphate Concentrated Injection may result in hyperkalaemia, especially in patients with renal impairment.

Other phosphate containing medicines:

Concurrent use with DBL™ Potassium Dihydrogen Phosphate Concentrated Injection may result in hyperphosphataemia, especially in patients with impaired renal function.

Potassium containing medicines:

Concurrent use with DBL™ Potassium Dihydrogen Phosphate Concentrated Injection may result in hyperkalaemia, especially in patients with renal impairment.

Salicylates:

Concurrent use with DBL™ Potassium Dihydrogen Phosphate Concentrated Injection may increase the serum concentration of salicylates, since salicylate excretion is decreased in acidified urine. This may result in toxic salicylate concentrations when phosphate is administered to patients already stabilized on salicylates.

4.6 Fertility, pregnancy and lactation

Fertility

No data available.

Pregnancy

Animal reproduction studies have not been conducted with this product. It is not known whether this product can adversely effect the foetus when administered to a pregnant woman. Therefore DBL™ Potassium Dihydrogen Phosphate Concentrated Injection is not recommended for use during pregnancy.

Lactation

It is not known whether phosphates are excreted into breast milk, therefore DBL™ Potassium Dihydrogen Phosphate Concentrated Injection is not recommended for use during lactation.

4.7 Effects on ability to drive and use machinery

No data available.

4.8 Undesirable effects

Cardiovascular

Uncommon : hypotension

Rare: myocardial infarction

Endocrine/Metabolic

The following events have been reported but are uncommon:

Fluid retention as indicated by swelling of feet or lower legs or weight gain.

Hyperkalaemia leading to confusion, tiredness or weakness, irregular or slow heart rate, numbness or tingling around lips, hands or feet, unexplained anxiety, weakness or heaviness of legs, shortness of breath or troubled breathing.

Hypernatraemia leading to confusion, tiredness or weakness, convulsions, oliguria or decreased frequency of micturition, tachycardia, headache or dizziness, increased thirst.

Hyperphosphataemia, hypocalcaemia or hypomagnesaemia leading to convulsions, muscle cramps, numbness, tingling, pain or weakness in hands or feet, shortness of breath or troubled breathing, tremor.

Extraskelatal calcification as nephrocalcinosis has been reported in children with hypophosphataemic rickets treated with phosphate supplements.

Genitourinary

Rare: acute renal failure

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicine is important. It allows continued monitoring of the benefit/risk balance of the medicine. Healthcare professionals are asked to report any suspected adverse reactions <https://nzphvc.otago.ac.nz/reporting/>.

4.9 Overdose

Clinical features

Hyperphosphataemia may occur when large doses of DBL™ Potassium Dihydrogen Phosphate Concentrated Injection are given, especially in patients with renal failure. Symptoms associated with hyperphosphataemia include muscle weakness, paraesthesia, convulsions, cardiomyopathy, respiratory failure and haematological abnormalities.

Hyperphosphataemia may in turn lead to hypocalcaemia and to ectopic calcification, which may be severe.

Crystal deposition may occur in important structures including blood vessels of the eye, lung, heart and kidney. Fatal alveolar diffusion block has occurred, the risk being greater if the patient is alkalotic.

Treatment

Treatment of overdosage involves the following measures:

- immediate cessation of phosphate therapy
- correction of serum electrolyte concentrations, especially calcium
- general supportive treatment.

For advice on the management of overdose please contact the National Poisons Centre on 0800 POISON (0800 764766).

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

The majority (80%) of the body's phosphate is found as calcium phosphate in the skeleton, where it gives rigidity to the bone. The remainder is found in soft tissues. Phosphate is the principle anion of intracellular fluid. In body fluids, phosphate is present mainly as divalent hydrogen phosphate (HPO_4^{2-}) ions (approximately 80%) and monovalent dihydrogen phosphate (H_2PO_4^-) ions (approximately 20%).

Apart from its essential role in bone structure, phosphate is also important in many metabolic and enzymatic pathways. It is involved in energy storage and transfer, the utilization of B-complex vitamins, the buffering of body fluids, and in the renal excretion of hydrogen ions.

Hypophosphataemia may arise from a variety of causes including primary hyperparathyroidism, Vitamin D deficiency, X-linked familial hypophosphataemia, alcoholism, hepatic failure and septicaemia. The symptoms of hypophosphataemia include muscle weakness, paraesthesia, convulsions, cardiomyopathy, respiratory failure and haematological abnormalities. Prolonged hypophosphataemia may result in rickets or osteomalacia.

5.2 Pharmacokinetic properties

The normal concentration range of phosphate in plasma is 0.8 to 1.5 mmol/L.

Phosphate is primarily excreted in the urine. Over 90% of plasma phosphate is filtered in the kidneys with the majority being reabsorbed in the proximal tubule. Parathyroid hormone decreases the tubular reabsorption of phosphate, thereby increasing urinary excretion. In addition, serum phosphate levels are inversely related to serum calcium levels and to renal metabolism of Vitamin D. A decrease in serum calcium concentration will result in increased serum phosphate levels.

5.3 Preclinical safety data

Genotoxicity

No data available.

Carcinogenicity

No data available.

Reproductive and developmental toxicity

No data available.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

- Water for injection

6.2 Incompatibilities

Phosphates are reported to be incompatible with calcium or magnesium containing solutions.

6.3 Shelf life

18 months from date of manufacture

6.4 Special precautions for storage

Store below 25°C

6.5 Nature and contents of container

Strength

Potassium phosphate monobasic 136.1 milligrams/mL

Packs of 10 Ampoules

6.6 Special precautions for disposal

Any unused medicine or waste material should be disposed of in accordance with local requirements.

7. MEDICINE SCHEDULE

General Sale Medicine

8. SPONSOR

Pfizer New Zealand Limited

P O Box 3998

Auckland, New Zealand, 1140

Toll Free Number: 0800 736 363

9. DATE OF FIRST APPROVAL

09 Feb 1989

10. DATE OF REVISION OF THE TEXT

29 January 2019

Summary table of changes

Section changed	Summary of new information
All	Reformat to MedSafe Data Sheet guidance