



## USE DIRECTIONS

August 2021

# SuPerfect Co 0.12%

<b>%N</b>	<b>%P</b>	<b>%K</b>	<b>%S</b>
<b>0</b>	<b>8.8</b>	<b>0</b>	<b>11</b>

**Plus 0.12% Cobalt (Co)**

## ANALYSIS

### Nutrients

7 % Phosphorus (P) – Water Soluble

1.6 % Phosphorus (P) – Citrate Soluble

0.2 % Phosphorus (P) – Citrate Insoluble

8.8 % Phosphorus (P) – Total

11 % Sulfur (S) – as Sulfate

19% Calcium (Ca) – as Superphosphate

0.12 % Cobalt (Co) as Sulfate

### Impurities

Cadmium (Cd) 25 mg/kg Cd (max)

300 mg Cd/kg P (max)

Lead (Pb) 100 mg/kg Pb (max)

Mercury (Hg) 5 mg/kg Hg (max)

Fluorine (F) 2.5% F (max)

250 g/kg P (max)

This product contains heavy metal impurities. Its use may result in accumulation of cadmium, lead and mercury in the soil. Depending on soil characteristics, irrigation water quality, plant species and variety, crop uptake of cadmium may lead to residue limits in plant and animal products in excess of the maximum level specified by the Australia New Zealand Food Standards Code. In pasture, the offal from grazing animals may also exceed these limits.

## **DIRECTIONS FOR USE**

SuPerfect Co 0.12% is used in blends with ordinary SuPerfect (and Muriate of Potash if required) to supply cobalt (Co) in pastures in southern Australia. Cobalt (Co) is not required in crops, but may be of importance in legume based pastures and in animal nutrition. Cobalt is a constituent of Vitamin B12, each molecule of the vitamin containing one atom of cobalt.

In cattle and sheep, Vitamin B12 is synthesized by rumen microbes. A deficiency in dietary cobalt results in Vitamin B12 deficiency in the grazing animal. Humans have no such microorganisms and must rely on their diet to provide them with the vitamin B12 they need.

In plants, cobalt is only of importance in nitrogen fixation by legumes. The *Rhizobium* bacteria need cobalt to synthesize vitamin B12, like rumen bacteria. Cobalt does not appear to be necessary for the host plant, and in other crops.

Most soils supply sufficient cobalt for legume nodulation, and to meet the requirements of cattle and sheep through the forage on offer to the grazing animals. Sandy soils are most likely to be low in cobalt.

On sandy soils, recommended rates for cobalt vary, but are often in the range of 25 – 50 g/ha Co, repeat applications being made every 2 – 4 years. To apply 25 – 50 g/ha of cobalt, SuPerfect Co 0.12% needs to be applied at 20 – 40 kg/ha in a blend.

A typical rate at which SuPerfect Co 0.12% is added to “Scrub Mixes” for use in legume pastures on sandy soils is 12.5%. This gives a cobalt concentration in the end product of 0.015% Co. When applied at 250 kg/ha, Scrub Mixes containing 0.015% Co supply 35 - 40 g/ha Co.

Cobalt can be administered directly to animals, bypassing the need to apply it to the soil. This is the preferred way to supplement cattle and sheep, as pasture topdressing is not always successful in preventing cobalt deficiency in grazing animals. Advice should be sought from a Veterinarian or Animal Nutritionist on appropriate products and methods of administration.

## **SAFETY DIRECTIONS**

Avoid ingestion, dust inhalation and contact with the eyes and skin. Wash hands after use.

## **CARE OF EQUIPMENT**

This product can be corrosive to metals. Clean equipment after use and follow manufacturer's maintenance advice.

## **WARNING**

Before using fertiliser seek appropriate agronomic advice. Fertiliser may burn and/or damage crops or pasture. Because climatic and soil conditions, application methods, irrigation and agricultural practices are beyond the control of Incitec Pivot Limited and cannot be foreseen, Incitec Pivot Limited accepts no responsibility whatsoever for any commercial damage, loss or other result following the use of this product whether used in accordance with directions or not, subject to any overriding statutory provision and provided that such liability under those provisions shall be limited to the replacement of the goods as supplied or the rendering again of the services that are provided. The buyer accepts and uses this product subject to these conditions.

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