



TECHNICAL DATA SHEET

Product Name: 3,4-Dimethylpyrazole Phosphate (DMPP)

CAS No.: 202842-98-6

Molecular Formula: $C_5H_{11}N_2O_4P$

Molecular Weight: 198.13 g/mol

EINECS No.: 424-640-9

EC Number: 202842-98-6

1. Product Description

DMPP is a highly effective nitrification inhibitor used in modern agriculture to enhance nitrogen fertilizer efficiency. It delays the microbial conversion of ammonium (NH_4^+) into nitrate (NO_3^-), thereby reducing nitrogen loss through leaching and denitrification. This contributes to higher crop yields, better nitrogen utilization, and reduced environmental impact.

2. Typical Specifications

Parameter	Specification
Appearance	White to off-white powder
DMPP Content	$\geq 99.0\%$
Moisture Content	$\leq 0.5\%$
pH (1% solution in water)	6.0–8.0
Water Solubility	Fully soluble
Heavy Metals (Pb)	≤ 20 mg/kg
Arsenic (As)	≤ 2 mg/kg
Melting Point	Approx. 168–173°C

3. Mode of Action

DMPP specifically inhibits the activity of *Nitrosomonas* bacteria in soil, thereby slowing the oxidation of ammonium to nitrate. This stabilizes nitrogen in the ammonium form for a longer period, reducing nitrogen losses and enhancing fertilizer efficiency.

4. Applications

Urea, ammonium sulfate, and compound fertilizers (NPK)

Liquid fertilizers and urea solutions

Controlled release or slow-release fertilizer formulations

Suitable for use in crops such as corn, wheat, rice, vegetables, and fruits

5. Benefits

Increases nitrogen use efficiency (NUE)
Reduces nitrate leaching and N₂O emissions
Enhances crop yield and quality
Extends nitrogen availability in soil
Environmentally friendly and safe

6. Packaging & Storage

Packaging	Standard
Packaging Type	25 kg fiber drums or bags
Shelf Life	24 months in original packaging
Storage Condition	Store in a cool, dry, ventilated area, away from sunlight and moisture

9. Supplier's Note:

Jiangsu Khonor Chemicals Co., Limited provides **high-quality, customizable DMPP** tailored for global markets.

With **ultrafine powder grades** optimized for **liquid calcium-magnesium supplements**, our product is particularly suited for **teen nutrition** and **advanced formulations**.

Whether you need a specific **Ca:Mg ratio**, **ultrafine mesh**, or **regulatory certification**, we are ready to support your product development and market expansion.

