

**Product Type: Powdered Nutrient****Why use nutrients?**

Research shows that regular nutrient supplementation helps to maintain a strong, viable and healthy microbial population. Sufficient nutrients ensure dependable fermentations and increased fermentation rates and more consistent end product. A complex nutrient supplement provides microbes with the essential micro-nutrients, polypeptides, and amino acids to ensure good cell growth generation after generation. Pitching nutrient alongside healthy, viable microbial populations leads to less stressful conditions and assures consistency and efficiency in fermentation.

**What is Ferm Point®**

Ferm Point Powdered Nutrients contain a diverse blend of vitamins, minerals, polypeptides, and amino acids that have been identified as essential precursors required to build biomass and drive precision fermentations. Gusmer Enterprises has been formulating fermentation nutrients for many years and has developed Ferm Point Powdered Nutrients based on the latest fermentation research and with the highest quality, bioavailable ingredients for maximum assimilation by the microbes. The product is non-GMO, non-BSE certified and formulated in the USA. The dedicated team of specialized scientists and manufacturing experts at Gusmer Enterprises are available to assist in supporting your use of Ferm Point Powdered Nutrients from ideation to implementation quickly and cost effectively. By employing the use of precision mixing technology, Gusmer Enterprises can design and make new nutrient blends to optimize your process.

**Application:**

A loose powder containing pure complex B vitamins and minerals meant to bring a fermentation over the top, or to supplement nitrogen sources in nutrient-deficient growth media. Adequate nutritional components help prevent the formation of sulfides and other aromas in fermentation.

## Instructions for use:

Ferm Point FP401 Powdered Nutrient should be mixed at 10 times its weight in process liquid to properly dissolve. Product is not fully dissolvable.

## Technical Data:

### Addition Level

- Recommended starting dosage is 3 g/L
- Dosage optimization will be required

### Storage and Shelf Life

- Store under cool and dry conditions
- Shelf life is 24 months unopened and 6 months opened but sealed package.

### Appearance

- Tan colored powder with yeast-like aroma

### Packaging

- 1 kg pack
- 10 kg pack

Vitamins	Specification (mg/100g)
Thiamine (B1)	517.24
Riboflavin (B2)	0.00
Niacin (B3)	413.79
Pantothenic Acid (B5)	0.00
Biotin (B7)	0.00
B6	0.00
Folic Acid (B9)	41.38
Vitamin B12	0.00
Inositol	0.00

Minerals	Specification (mg/100g)
Calcium	165.67
Iron	0.17
Magnesium	5173.54
Phosphorus	128.02
Potassium	0.00
Sodium	0.88
Zinc	0.00

## Product Specifications:

Microbiological	Specification
Total Bacteria Count	<15,000 / g
Yeast and Mold	<100 / g
Coliform Organisms	<10 / g
<i>E. coli</i>	Negative
Salmonella	Negative

Base Characteristic	Specification
Total Nitrogen	0.17%
Amino Nitrogen/Total	0.00%
Salt (as Chlorides)	0.000%
pH (5% Solution)	5.48

Amino Acids	Specification (mg/100g)
Alanine	0.00
Arginine	0.00
Aspartic Acid	0.00
Glutamic Acid	0.00
Glycine	0.00
Histidine	0.00
Isoleucine	0.00
Cystine	0.00
Leucine	0.00
Lysine	0.00
Methionine	0.00
Phenylalanine	0.00
Proline	0.00
Threonine	0.00
Serine	0.00
Tryptophan	0.00
Tyrosine	0.00
Valine	0.00



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