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Product Information

Yeast Nitrogen Base With Amino Acids

Product Number **Y 1250**

Store at Room Temperature

Product Description

Yeast nitrogen base provides amines (ammonium sulfate), vitamins, amino acids (His, Met, Trp), some trace elements, and salts as a basic nutrient for most fermentations. It often acts as the starting nutrient mix for dropout studies where fermentation conditions required the absence of one or more essential amino acids.

In addition to the nitrogen supplied by this product, it also contains approximately:

Amino Acids:

L-histidine	10 mg/L
DL-methionine	20 mg/L
DL-tryptophan	20 mg/L

Vitamins (μg/L):

Biotin	2
Calcium pantothenate	400
Folic acid	2
Inositol	2,000
Niacin	400
p-Aminobenzoic acid	200
Pyridoxine hydrochloride	400
Riboflavin	200
Thiamine hydrochloride	400

Salts:

potassium phosphate monobasic	1 g/L
ammonium sulfate	5 g/L
magnesium sulfate	0.5 g/L
sodium chloride	0.1 g/L
calcium chloride	0.1 g/L

Trace Elements:

boric acid
copper sulfate
potassium iodide
ferric chloride
manganese sulfate
sodium molybdate
zinc sulfate

Supplementation with essential amino acids is required if yeast nitrogen base is to be used in fermentation. Sigma offers an essential amino acids kit (Product Code LAA21), which contains all the necessary amino acids to prepare a defined dropout mix. The recommended final concentrations of amino acids in standard bacterial or fungal cultures are:

Adenine	40 mg/L
Arginine	20 mg/L
Aspartic acid	100 mg/L
Histidine	20 mg/L
Isoleucine	30 mg/L
Leucine	60 mg/L
Lysine	30 mg/L
Methionine	20 mg/L
Phenylalanine	40 mg/L
Threonine	300 mg/L
Tryptophan	20 mg/L
Tyrosine	25 mg/L
Uracil	10 mg/L
Valine	150 mg/L

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (67 mg/ml), yielding a slightly hazy, light yellow solution. For best results, solutions with this nitrogen base should be filter-sterilized (10X solution) through a 0.2 μm filter.

Procedure

A typical recipe for 10X formulation as a growth medium is:

1. Suspend 6.7 g of the nitrogen base and 5 g of bacteriological grade dextrose (or equivalent amount of other carbohydrate) in 100 ml of water.

2. It may be necessary to warm the water slightly to completely dissolve the components.
3. Filter-sterilize the 10X solution using a 0.2 μm filter. Store in a refrigerator (2-8 °C) and use as needed.

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