

Yeast Nitrogen Base Without Amino Acids and Ammonium Sulfate

Product Number **Y 1251**
Store at Room Temperature

Product Description

This yeast nitrogen base has been prepared in such a manner as to eliminate all amine sources, so it is lacking in ammonium sulfate and the amino acids His, Met, and Trp. This nitrogen base provides vitamins, 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:

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

Trace Elements	µg/L
Boric acid	500
Copper sulfate	40
Potassium iodide	100
Ferric chloride	200
Manganese sulfate	400
Sodium molybdate	200
Zinc sulfate	400

2. Warm if necessary to solubilize and sterilize by filtration (0.2 µm filter). Store 10× stock solution at 2-8 °C. To use, dilute 1:10 with sterile distilled water under aseptic conditions.

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:

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

Preparation Instructions

1. Prepare a 10× stock solution by suspending 1.7 g of yeast nitrogen base without amino acids and ammonium sulfate in 100 mL of cold distilled water. Include desired nitrogen and carbon sources. Solution is slightly hazy and light yellow.



Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

