3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone (800) 325-5832 (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

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 hydrochloide	400
Salts:	
potassium phosphate monobasic	1 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 (17 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 1.7 g of the nitrogen base and 5 g of bacteriological grade dextrose (or equivalent amount of other carbohydrate) in 100 ml of water.

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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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