



Panreac

RE

**Nitrogen Determination
by Kjeldahl Method**

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Panreac can supply a complete range of catalysts for digestion by the Kjeldahl method and furthermore auxiliary reagents used for this method.

Most of them are offered in packages of 1000 tablets, of different weights (1 / 1,65 / 3,5 / 4 / 5 g) except for the 8 g tablets, which appears in packages of 500 units. So the user has a great flexibility of sizes to choose the amount of catalyst adapted to his sample.

The following table shows our RE program (Kjeldahl).

If you wish to receive more information, don't hesitate to request our General Catalogue or visit our web in www.panreac.com.

Determination of Nitrogen according to Kjeldahl

For longer than 100 years the Kjeldahl method has been used for the determination of nitrogen in a wide range of samples. The determination of Kjeldahl nitrogen is made in foods and drinks, meat, feeds, cereals and forages for the calculation of the protein content. Also the Kjeldahl method is used for the nitrogen determination in wastewaters, soils and other samples.

It is an official method and it is described in different normatives such as: AOAC, US-EPA, ISO, Pharmacopeias and different European Directives.

The Kjeldahl method is used to determine the nitrogen content in organic and inorganic samples. It is based on the digestion of the sample in boiling concentrated sulphuric acid, with the addition of a catalyst. The sample is digested until dissolution and oxidation. The nitrogen contained in the sample becomes Ammonium Sulphate.

Adding an excess of sodium hydroxide solution, the ion ammonium is released in ammonia form, distilled and received on a boric acid solution or a volumetric sulphuric acid solution.

The ammonia is determined with a volumetric acid solution or by back-titration with sodium hydroxide solution of well-known concentration, if it was received on sulphuric acid.

The results can be expressed in % N, % NH₃ or protein (%N x factor).

Order information

Code	Description	Package				
Catalyst						
173350	Kjeldahl Catalyst (Cu) (0,3% in CuSO ₄ ·5H ₂ O) tablets RE (Potassium Sulphate + Copper(II) Sulphate)	 3,5 kg	(1000 tablets of 3,5 g)			
		 5 kg	(1000 tablets of 5,0 g)			
174428	Kjeldahl Catalyst (Cu) (6,25% in CuSO ₄ ·5H ₂ O) tablets RE (Potassium Sulphate + Copper(II) Sulphate) according to Directive 93/28/EEC	 4 kg	(500 tablets of 8,0 g)			
175639	Kjeldahl Catalyst (Cu) (9% in CuSO ₄ ·5H ₂ O) tablets RE (Potassium Sulphate + Copper(II) Sulphate)	 1650 g	(1000 tablets of 1,65 g)			
172429	Kjeldahl Catalyst (Cu-Se) powder RE (Potassium Sulphate + Copper(II) Sulphate + Selenium) for N determination according to Wieninger	 1000 g	 5 kg			
172926	Kjeldahl Catalyst (Cu-Se) (1,5% CuSO ₄ ·5H ₂ O + 2% Se) tablets RE (Potassium Sulphate + Copper(II) Sulphate + Selenium) for N determination according to Wieninger	 1000 g	(1000 tablets of 1,0 g)			
		 3,5 kg	(1000 tablets of 3,5 g)			
		 5 kg	(1000 tablets of 5,0 g)			
175570	Kjeldahl Catalyst (Cu-Se) (9% CuSO ₄ ·5H ₂ O+0,9% Se) tablets RE (Potassium Sulphate + Selenium metal + Copper(II) Sulphate 5-hydrate) for soil analysis	 4 kg	(1000 tablets of 4 g)			
173349	Kjeldahl Catalyst (Cu-TiO ₂) tablets RE (Potassium Sulphate + Sodium Sulphate + Copper(II) Sulphate 5-hydrate + Titanium(IV) Oxide)	 3,5 kg	(1000 tablets of 3,5 g)			
		 5 kg	(1000 tablets of 5,0 g)			
173347	Kjeldahl Catalyst (Hg) tablets RE (Potassium Sulphate + Mercury(II) Oxide yellow)	 3,5 kg	(1000 tablets of 3,5 g)			
		 5 kg	(1000 tablets of 5,0 g)			
173348	Kjeldahl Catalyst (Se) tablets RE (Potassium Sulphate + Selenium)	 3,5 kg	(1000 tablets of 3,5 g)			
		 5 kg	(1000 tablets of 5,0 g)			
Acids and oxidants for digestion						
173163	Sulphuric Acid 98% RE	 1000 ml	 2,5 l	 5 l	 25 l	 60 l
121076	Hydrogen Peroxide 30% w/v (100 vol.) PA	 500 ml	 1000 ml	 5 l	 25 l	
Alkalis for evolution of ammonia						
131687	Sodium Hydroxide pellets PA-ACS-ISO	 500 g	 1000 g	 5 kg	 25 kg	
142404	Sodium Hydroxide solution 50% p/p PRS	 5 l	 25 l	 60 l		
141571	Sodium Hydroxide solution 50% p/v PRS	 5 l	 25 l	 60 l		
171220	Sodium Hydroxide solution 40% p/p RE	 1000 ml	 5 l	 10 l	 25 l	 60 l
122666	Sodium Hydroxide solution 32% p/v PA	 1000 ml	 5 l			
Solutions for collection of ammonia						
282928	Boric Acid solution 3% RV	 1000 ml				
282222	Boric Acid solution 4% RV	 1000 ml	 5 l			
Volumetric solutions						
181023	Hydrochloric Acid 0,1 mol/l (0,1N) SV	 1000 ml	 2,5 l	 5 l	 10 l	
181061	Sulphuric Acid 0,05 mol/l (0,1N) SV	 1000 ml	 2,5 l	 5 l	 10 l	
Indicators						
282430	Indicator, Mixed (Methyl Red-Methylene Blue) RV	 250 ml				
283303	Indicator 5, Mixed (Methyl Red-Bromocresol Green) RV	 250 ml				

Packaging Symbols:

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|---|---|
|  Polyethylene bottle |  Polyethylene container with removable tap |
|  Polyethylene canister |  Polyethylene bottle with outer can |
|  Glass bottle |  Polypropylene bucket with handle |



PANREAC
QUIMICA
SAU

C/ Garraf, 2
Polígono Pla de la Bruguera
E-08211 Castellar del Vallès
(Barcelona) Spain
Tel. (+34) 937 489 400
Fax (+34) 937 489 401
e-mail: central@panreac.com
www.panreac.com

International:

Tel. (+34) 902 438 439
Fax (+34) 937 489 495
e-mail: export@panreac.com

Certificado ISO 9001 por



Certificado ISO 14001 por

