

Specialty Products:

Separate the organic from the inorganic. Protect lab surfaces. Test the pH levels in swimming pools. A range of products for a variety of tasks.

Specialty Products

Ashless Cellulose Powder Filter Aid	200
Benchkote and Benchkote Plus	200
CryptTest Membrane Filter Cartridge	201
Lens Cleaning Tissue	205
pH Indicators and Test Papers	205
Seed Testing Papers	210
Weighing Papers	212

Specialty Products

Whatman offers a range of specialty products to meet your specific testing requirements. Made with traditional Whatman quality, these products combine ease-of-use with unsurpassed accuracy and consistency.

Ashless Cellulose Powder Filter Aid

Whatman ashless cellulose powder enhances filtration speed by coagulating precipitates or suspensions to form a thick retentive 'prefilter' layer on top of normal filter paper.

Easily dispersible, the powder is of a purity similar to that of Whatman ashless quantitative papers. Maximum ash content is 0.015%. It is supplied with a two-ended scoop for measuring 0.50 g or 2.5 g quantities.

Ordering Information - Ashless Cellulose Powder Filter Aid

Catalog Number	Description	Size
1700-025	Ashless Powder	250 g
1703-050	Ashless Clippings	500 g

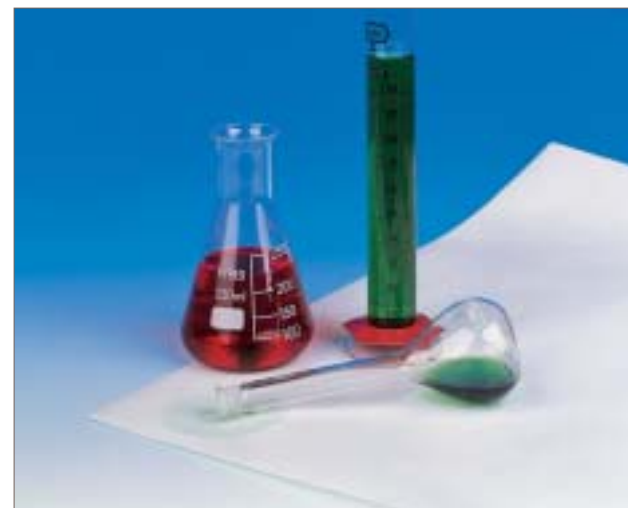
Benchkote® and Benchkote Plus™

Benchkote

Benchkote is an absorbent, impermeable material designed to protect laboratory surfaces against hazardous spills. The material features a high-quality, smooth, absorbent Whatman paper which quickly absorbs liquid spills and a laminated polyethylene layer that prevents flow through to the working surface. After use the sheet is incinerated or disposed of according to local regulations. This makes both Benchkote and Benchkote Plus excellent products that comply with OSHA Regulation 29CFR 1910.1030 for Occupational Exposure to Bloodborne Pathogens.

Benchkote Plus

Benchkote Plus is a thicker, more absorbent material for more demanding applications and can absorb in excess of 0.75 liters of water per square meter.



Features and Benefits

- Material is very strong, making it tear resistant, wet or dry
- Smooth white surface can be written on with ink or pencil and lies flat
- Suitable for saturation with disinfectant to protect benches where pathogens and other bacteria are present
- Use polyethylene side up to collect deposits without absorption
- Paper side quickly absorbs liquids preventing liquids from going through to the working surface
- Spillages are trapped in the absorbent paper
- Benchkote can be picked up and burnt very easily after use; the polyethylene layer does not melt or drip but is rapidly consumed in the flames

Applications

- Containing radiochemical spillage and avoiding contamination
- Recovering spillage of expensive materials
- Protecting hard surfaces to lessen impact
- Water or solvent wick for humidity chambers
- Lining of chemical cabinets, laboratory bench drawers and laboratory hoods

Ordering Information - Benchkote and Benchkote Plus

Catalog Number	Description	Dimensions	Quantity/Pack
Benchkote			
2300-916	Sheets	46 cm x 57 cm	50
2300-594	Pads	46 cm x 57 cm	50
2300-731	Reel	46 cm x 50 m	1
2300-772	Reel	92 cm x 50 m	1
Benchkote Plus			
2301-6150	Sheets	50 cm x 60 cm	50
2301-6160	Reel	60 cm x 50 m	1

CryptTest® Membrane Filter Cartridge

Whatman introduces a new, convenient membrane filter cartridge for the concentration and recovery of water-borne protozoan cysts and oocysts which has been approved by the EPA for Method 1623, *Cryptosporidium* and *Giardia* in water by filtration.

The CryptTest Cartridge captures protozoan cysts and oocysts from sample water pumped through the disposable cartridge contained in a reusable housing. The CryptTest contains a 1.0 µm pore size Nuclepore polycarbonate track-etched membrane.

Protozoan cysts and oocysts are recovered from the membrane cartridge by using a simple backwashing procedure. The eluant, containing cysts and oocysts, is decanted from the housing into a collection vessel.

Further concentration, purification and separation by centrifugation, immunomagnetic separation or flow cytometry/cell sorting is then performed. Enumeration and confirmation of the cysts and oocysts is done using epifluorescence and DIC procedures.

Features and Benefits

- Nuclepore polycarbonate track-etched membrane provides total surface capture
- Simple backwashing procedure yields consistent high recovery
- Convenient for field sampling - sample water pumped through disposable cartridge contained in durable, reusable housing
- Simple to use



CryptTest Membrane Filter Cartridge

Ordering Information - CryptTest Membrane Filter Cartridge

Catalog Number	Description	Quantity/Pack
610064	CryptTest Cartridge	1
71503	Cartridge Housing, AMETEK 5" Clear Polycarbonate	1

Method

The CryptTest Cartridge was developed for efficient concentration and recovery of protozoan cysts and oocysts in water. The following method is recommended for processing water samples.

Materials and Equipment

- CryptTest Cartridge - Catalog Number 610064
- Cartridge housing, AMETEK 5" clear polycarbonate - Catalog Number 71503
- 1/2" male pipe threads with male hose connectors (2)
- Laboratory tubing, Tygon formula R-3603, or equivalent, to which cysts/oocysts will not adhere
- Flow control valve - 2 liters/minute (0.5 gallons/minute)
- Water flow meter
- Peristaltic pump
- Ultrasonic bath

Elution Buffer

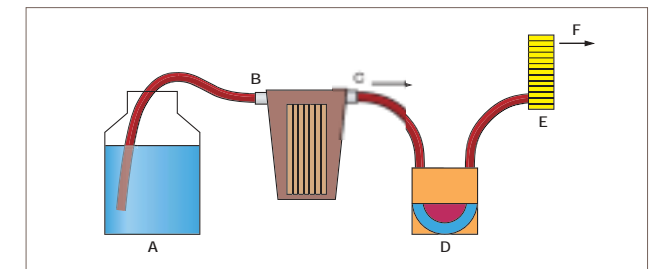
- NaCl - 8.0 g
- KH_2PO_4 - 0.2 g
- Na_2HPO_4 ($12\text{H}_2\text{O}$) - 2.9 g
- KCl - 0.2 g
- Sodium lauryl sulfate (SDS) - 0.2 g
- Tween 80 - 0.2 mL
- Antifoam A* - 0.02 mL
- Adjust volume to 1 liter with reagent water
- Adjust pH to 7.4 with 1 N NaOH or HCl

* Sigma Chemical Co - Catalog Number A5758

Sample Filtration

Key

- A - Sample
- B - Filter Inlet
- C - Filter Outlet
- D - Peristaltic Pump
- E - Flowmeter
- F - To Waste

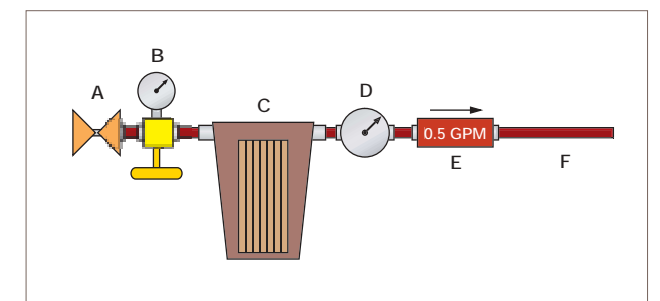


Sampling from Carboy

1. Clean and rinse cartridge housing
2. Attach male pipe threads to inlet and outlet of cartridge housing cap
3. Attach new or well-cleaned tubing to male hose connectors on inlet and outlet of cartridge housing. Secure both with band clamps.
4. Install the cartridge filter in the housing
5. When filtering sample water from a carboy, thread the outlet tubing through the peristaltic pump and immerse the open end of the inlet tubing in the carboy. Alternatively attach open end of inlet tubing directly to feed line.
6. Turn on pump and adjust the flow rate to 2 liters/min
7. Turn off the pump when the desired sample volume has been filtered

Key

- A - Sample Tap
- B - Pressure Regulator and Gauge
- C - Filter in Housing
- D - Flow Totalizer
- E - Flow Control Valve
- F - Drain Hose



Sampling from Feed Line

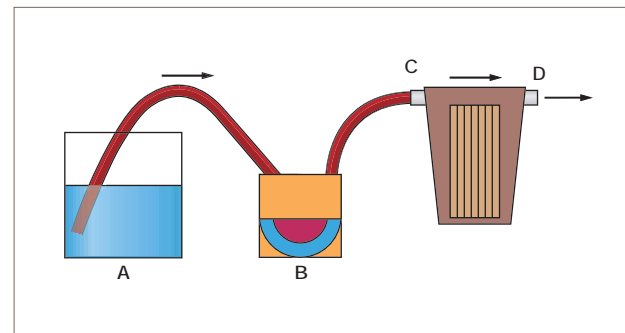
Backwashing the Cartridge to Elute Cysts/Oocysts

1. Detach tubing from housing inlet and decant any water remaining in the inlet side of the housing into a 1 liter sample bottle
2. Attach the housing outlet to the discharge tubing of the peristaltic pump. Place the free end of this tubing into a beaker of elution buffer.
3. Start the pump and run at approximately 400 mL/min until the filter outlet core and the housing inlet cavity are filled (approximately 300 mL)
4. Cap the housing inlet and outlet and place the housing in the ultrasonic bath for 2 minutes
5. Remove the inlet cap and decant the liquid from the inlet side into the collection bottle
6. Repeat steps 3, 4 and 5 and then proceed to step 7
7. Connect housing outlet to regulated compressed air source and gradually increase pressure to 5-10 psi as necessary to drive remaining elution buffer from the outlet side to the inlet side and into the collection bottle

After backwashing the cartridge and collecting the eluate, further purification, detection and enumeration of cysts/oocysts may be performed using EPA recommended methods.

Key

- A - Eluting Solution
- B - Peristaltic Pump
- C - Filter Outlet
- D - Filter Inlet



Backwash

Cleaning the Cartridge Housing

The following procedure is recommended for cleaning the cartridge housing between samples.

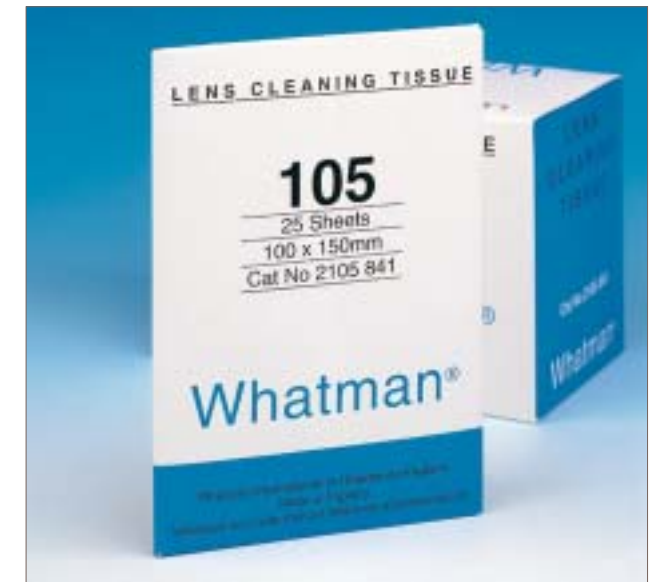
1. Wash thoroughly with water and laboratory detergent, using a brush to clean all crevices
2. Soak in 6% sodium hypochlorite solution for 30 minutes
3. Rinse thoroughly with tap water
4. Rinse with laboratory water

Lens Cleaning Tissue

Lenses and other optical surfaces made from glass, quartz or plastic can be easily scratched if you do not clean them with a very soft surface. High-quality Whatman lens cleaning tissue provides the ideal solution. The tissue is chemically pure and free from silicones and other additives. Most importantly, it can be relied on to safely remove surface moisture and grease.

Features and Benefits

- Soft texture will not damage lenses or optical surfaces
- Chemically pure tissue is free from silicones and other additives
- High absorbency ensures the safe removal of surface moisture and grease
- Thickness 0.035 to 0.040 mm
- Very strong and leaves no fibers



Ordering Information - Lens Cleaning Tissue

Catalog Number	Dimensions	Quantity/Pack
Lens Cleaning Tissue		
2105-841	100 x 150 mm	25 wallets of 25 sheets
2105-862	200 x 300 mm	100 sheets
2105-918	460 x 570 mm	500 sheets

pH Indicators and Test Papers

Whatman offers a range of pH indicator and test papers to meet your specific needs. Made with traditional Whatman quality, these products combine ease-of-use with unsurpassed accuracy and consistency.

The convenience of using indicator papers for the rapid determination of pH values has led to many applications in laboratories and industry.

Features and Benefits

- Instant pH readings
- Accurate for a wide range of routine pH testing
- Inexpensive
- Convenient and portable for field use

pH Indicators

Strips Type CF

Individual plastic support strips carry four different segments of dye-impregnated indicator papers. The resulting combination of color differences gives an extremely clear and accurate visual pH value. All the dyes are chemically bonded to the paper and cannot be leached into solution; problems associated with contamination of the sample and resultant anomalous readings are avoided.

Strips Type CS

Each test strip has a central segment of indicator dye and, printed alongside, 8 or more different color segments marked with corresponding pH values for matching purposes. The pH test value can be read off by direct comparison of the test strip color and the color bars. Ideal for colored solutions, when any changes in color of the paper stock are automatically cancelled out.



Dispensers Type TC

The strip has 3 separate indicator dye color bands. The unique combination of color change resulting from each test is compared with the color-coded comparison chart, printed on the dispenser, giving improved speed and accuracy in reading.

Dispensers Type SR

A full range and some narrow ranges in this popular pH indicator dispenser.

Indicator Books

The book format is particularly suitable for educational and industrial use. In schools they are economical because the amount of paper per student can be carefully controlled.

Acid-Alkali Test Papers

Litmus Blue and Litmus Red

These easy-to-use test papers facilitate a general test for acid or alkaline reaction. The change occurs around pH 5-8. They are particularly recommended for educational use.

Congo Red

This test paper changes color from blue to red in the range pH 3-5 for the determination of neutralization point in strong acid/weak alkali reactions.

Phenolphthalein

This white paper changes to pink at pH 8.3 and becomes red at pH 10. It is useful for the determination of the neutralization point in weak acid/strong alkali reactions.

Specialized Test Papers

Lead Acetate Test Paper

Used for detecting hydrogen sulfide, this rapid qualitative test paper when wetted with distilled water can detect as little as 5 ppm of H₂S in the atmosphere or in a gas stream. Hydrogen peroxide can be detected with this paper by pre-blackening the paper in H₂S. Concentrations as low as 4 ppm can be detected.

Potassium Iodide Test Paper

Used for detecting chlorine and other oxidizing agents. In acid solution, oxidizing agents react with the iodide in the test paper to liberate iodine. The paper will turn blue in the presence of an oxidizing agent (e.g., Cl₂, Br₂, H₂O₂, HNO₂, etc.).

Ordering Information - pH Indicators and Test Papers

Catalog Number	Type	Description	pH Range	pH Unit Graduation	Dimensions	Packaging
Strips						
2613-991	CF	Color Bonded	0-14	1.0	11 mm x 100 mm	100 Strips
2614-991	CF	Color Bonded	4.5-10.0	0.5	11 mm x 100 mm	100 Strips
2612-990	CS	Integral Comparison Strip	1.0-12.0	1.0	11 mm x 100 mm	200 Strips
2626-990	CS	Integral Comparison Strip	1.8-3.8	0.2-0.3	11 mm x 100 mm	200 Strips
2627-990	CS	Integral Comparison Strip	3.8-5.5	0.2-0.3	11 mm x 100 mm	200 Strips
2628-990	CS	Integral Comparison Strip	5.2-6.8	0.2-0.3	11 mm x 100 mm	200 Strips
2629-990	CS	Integral Comparison Strip	6.0-8.1	0.3	11 mm x 100 mm	200 Strips
2630-990	CS	Integral Comparison Strip	8.0-9.7	0.2-0.3	11 mm x 100 mm	200 Strips
2631-990	CS	Integral Comparison Strip	9.5-12.0	0.5	11 mm x 100 mm	200 Strips

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Catalog Number	Type	Description	pH Range	pH Unit Graduation	Dimensions	Packaging
Dispensers						
2611-628	TC	Three Colors	1.0–11.0	1	10 mm x 5 m	Pack of 1 Dispenser
2600-100A	SR	Standard Full Range	1.0–14.0	1.0–2.0	7 mm x 5 m	Pack of 1 Dispenser
2600-101A	SR	Standard Narrow Range	0.5–5.5	0.5–1.0	7 mm x 5 m	Pack of 1 Dispenser
2600-102A	SR	Standard Narrow Range	4.0–7.0	0.5	7 mm x 5 m	Pack of 1 Dispenser
2600-103A	SR	Standard Narrow Range	6.4–8.0	0.5	7 mm x 5 m	Pack of 1 Dispenser
2600-104A	SR	Standard Narrow Range	8.0–10.0	0.5	7 mm x 5 m	Pack of 1 Dispenser

Ordering Information - Test Papers

Catalog Number	Description	Packaging
Acid Alkali Test Papers		
Dispensers		
2600-201A	Litmus Blue	Pack of 1 Dispenser
2600-202A	Litmus Red	7mm x 5m
2600-203A	Congo Red	
2600-204A	Phenolphthalein	
Books		
2600-601	Litmus Blue	Carton of 10 packs of 10 Books
2600-602	Litmus Red	20 Leaves per Book
2600-500	pH Indicator Booklet pH 1 - 11	10 Strips per Book 10 Books per Pack 20 Packs per Carton
Specialized Test Paper Dispensers		
2602-501A	Lead Acetate	Pack of 1 Dispenser
2602-500A	Potassium Iodide	7 mm x 5 m

Universal Indicator Papers

Universal indicator papers have been impregnated with a mixture of several indicators. On contact with the sample solution they assume a particular color. A check against the color comparison table supplied allows the pH to be determined.

Ordering Information - PANPEHA – Universal Indicator Papers

Catalog Number	Measuring pH Range	pH Color Change	Size (mm)	Quantity/Pack
PANPEHA				
10 362 030	1-11	1	7 mm x 5 m	1
PANPEHA Plus*				
10 362 000	0-14	1	6 x 85	100
10 362 010	2-9	0.5	6 x 85	100
PANPEHA Nr. 112				
10 360 005	0-14	0.5/1**	10 x 75	200
Litmus blue				
10 360 300	8-5	blue-red	10 x 75	100
Litmus red				
10 360 400	5-8	red-blue	10 x 75	100
Phenolphthalein				
10 360 700	8.3-10	white-red	10 x 75	100

* Non-bleeding

** From pH 0-9 in 0.5 pH steps; from pH 9-14 in 1 pH steps

Clinical Papers

Antibiotic Assay Discs

For determining the type of causal agent of infectious diseases and for checking their sensitivity to antibiotics and chemotherapeutic agents in vitro by means of the inhibition zone determination method. The antibiogram allows rational and selective chemotherapy. The test disks can be coated with chemotherapeutic agents, placed on the inoculated nutrient agar and incubated. The size of the inhibition zone is a measure for the effectiveness of the substances.

Papers for Clinical Applications

- **Grade 557:** Tallquist hemoglobin scale (for direct rapid testing of the hemoglobin value in blood)
- **Grade 470:** Soft surface. For gelatinous samples. Used for the absorption of culture media, as blotting paper, for electrophoresis and amino acid chromatography.

Ordering Information - Antibiotic Assay Paper

Catalog Number	Size (mm)	Quantity/Pack
Grade 557		
10 320 390	95 x 135	1 booklet (250 leaves)
Grade 470		
10 318 487	200 x 200	100
10 318 493	460 x 570	100
10 318 489	203 x 305*	25
AA Discs		
2017-006	6 mm	1000
2017-013	13 mm	1000

* Corresponds 8" x 12"

Seed Testing Papers

All seed testing papers meet the specifications published by the ISTA (International Seed Testing Association) and AOSA (Association of Official Seed Analysts). For the most common test methods (TP = top of paper, PP = pleated paper) several grades of paper are offered.

Owing to their extremely high purity our seed testing papers always provide reliable and reproducible results. The papers are made from pure cellulose without any additives and do not contain any substances which could influence the growth of the seeds. The constant water absorption of the papers ensures the continuous provision of the required amount of water.



The better contrast of the color seed testing papers makes evaluation easier, particularly for seeds with fine white rootlets or under artificial light. This makes work easier, improves the results and saves time. The dyes which we use have been thoroughly investigated and have no influence on the growth of the seeds.

Product Selection - Seed Testing Papers

Grade	Description	Thickness (mm)	Weight (g/m ²)
PP method			
3014	Pleated Strips, White*	0.23	113
3236	Pleated Strips, Gray*	0.22	110
TP method			
597	For Petri Dishes or Jacobsen/Copenhagen Tanks, White	0.19	85
598	For Petri Dishes or Jacobsen/Copenhagen Tanks, White	0.32	140
3621	Blotter, Light Blue	1.45	700
3633	Blotter, Light Blue	0.65	300
3644	Blotter, Blue	1.42	700
3645	Yellow	0.35	165
BP method			
3663	Brown, Creped	0.23	65

* 50 double pleats

Application - Seed Testing Papers

	Grade
Medium-large and Coated Seeds (e.g. sugar beet, fodder beet, grain, sunflower, rapeseed, mustard)	3014, 3236
Small Seeds (e.g. grasses, flowers)	597, 598
Seeds with Small White Rootlets	3621, 3633, 3645
Particularly Sensitive Seeds	3014

Ordering Information - Seed Testing Papers

Grade	Size (mm)	Quantity/Pack	Catalog Number
597	70	100	10 311 808
	90	100	10 311 809
598	90	100	10 312 209
3014	110 x 20	1000	10 344 672
	110 x 20	1000	10 344 676
3236	110 x 20	1000	10 345 572
	110 x 20	1000	10 345 576
3621	80 x 120	10 x 100	10 342 577
3633	90	1000	10 342 710
	270 x 410	100	10 342 766
3644	140 x 200	10 x 100	10 342 580
3645	110 x 170	100	10 342 583

Weighing Papers

Kjeldahl Weighing Boats

Features and Benefits

- Ideal for weighing and transferring Kjeldahl samples safely and reliably
- Dissolves residue-free in the digestion solution without influencing the analytical results in any way
- Made from nitrogen-free parchment paper without any glue or additives

Transfer your samples completely loss-free by simply dropping the entire weighing boat containing the sample into the acid solution in the Kjeldahl flask/digestion tube.

The fastest, safest and most comfortable way to transfer Kjeldahl samples.



Parchment Paper

Features and Benefits

- Transparent and smooth
- Simple weighing out of a wide range of different samples
- Quantitative transfer from paper

Typical Properties - Weighing Papers

Product	Grade	Thickness (mm)	Weight (g/m ²)
Weighing Boats, Nitrogen-free	609	0.07	80
Pergamene Paper	2122	0.03	40
Parchment Paper, Nitrogen-free	B-2	0.04	43

Ordering Information - Weighing Papers

Grade	Size (mm)	Quantity/Pack	Catalog Number
Kjeldahl Weighing Boats	55 x 10 x 10	100	10 313 032
2122	100 x 100	500	10 347 893
	150 x 150	500	10 347 890
B-2	3" x 3"	500	10 347 671
	4" x 4"	500	10 347 672
	6" x 6"	500	10 347 673
	12" x 12"	500	10 347 670

* 1" = 25.4 mm