

Spectrochemical Supplies

INCLUDING
ELECTRODES
PLATES
and
FILM

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SPEX

INDUSTRIES, INC.

P.O. BOX 798
METUCHEN, N. J. 08840

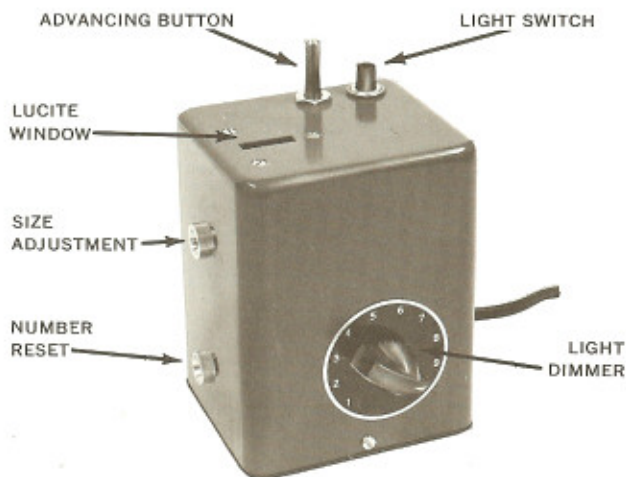
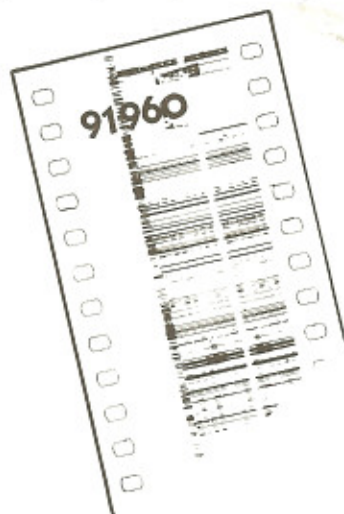
☎ (201)-549-7144

SPECIALISTS IN SPECTROSCOPY

SERIAL MARKER

FOR NUMBERING NEGATIVES IN:
MICROSCOPY, X-RAY DIFFRACTION, ELECTRON
DIFFRACTION, METALLOGRAPHY, NUCLEAR
PHYSICS, SPECTROSCOPY AND PHOTOGRAPHY

The Serial Marker photographically assigns a 5-digit number to any light sensitive emulsion. In the darkroom, before development, the film or plate—of any size—is held against a Lucite window through which a number is projected by pressing a switch. The number is advanced by pressing a second button. Resetting, if necessary, is accomplished by rotating the side knob.



Model 3702 has a built in attenuator for controlling the exposure, and is particularly useful in those laboratories where several emulsions, differing in speed, are used. The instrument is first calibrated for each emulsion. This is done by determining the proper position of the attenuator for the emulsion with, say, a 2-second exposure. Once calibrated, the SERIAL MARKER will consistently print a correctly exposed number on similar emulsions. It is equipped with an adjustable gate so that the identifying number may be printed in the same relative place on each film or plate.

3702 Serial Marker, for numbering photographs consecutively. Operates on 115 volts ac; attenuator for adjusting light intensity; size of 5-digit number may be varied from 3 x 15 mm to 4 x 20 mm; fence for aligning plates or films; spare 7.5 watt lamp.

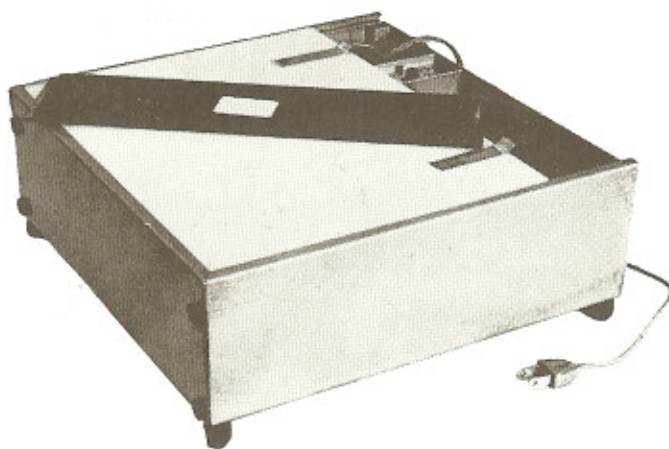
Each \$83.00

GLOW-BOX

Here's a viewing box that should be evaluated in terms of its versatility and usefulness rather than its low cost. The 11" x 9" viewing surface, of 1/4" thick Plexiglas, is illuminated with a high-intensity, rapid-start, cool, circular fluorescent lamp. The overall dimensions of the box (11-3/4" x 11-3/4" x 4" high) permit it to be stored and used in a desk drawer where it is instantly available yet out of the way when not wanted. Retractable legs permit the box to be flush-mounted or tilted for better viewing. The dimensions of the viewing surface are sufficient for examining two 4" x 10" plates or an 8 1/2" x 11" film. Other suggested uses for the Glow-Box are: 1) illuminating samples as they are being titrated; 2) color comparison; 3) tracing; 4) comparing graphs on different sheets of paper.

3710 Glow-Box, viewing box as described above; weight 7 lb., complete with 22-watt, circular fluorescent lamp, 115 vac, carrying handle; finished in baked hammertone grey enamel. 12" x 12" x 4", 11 lb

Each \$44.00



SPACING DIVIDERS



3506 Spacing Divider, 6" model, an accurately constructed pantograph-like drafting tool, has eleven teeth so arranged that they always divide the extreme setting into ten equal parts. Each tooth is numbered, left to right on one side, right to left on the other. Constructed of stainless steel, its maximum spread is 23 mm, minimum distance between teeth is 3 mm. This instrument is recommended for most spectrographic wavelength measurements.

Each \$ 43.00

3512 Spacing Divider, 12" model, same as above, but maximum spread 47 mm and minimum distance between teeth 6 mm.

Each \$ 55.00

RECOMMENDED SPECTROGRAPHIC EMULSIONS

SPECTROSCOPIC PLATES AND FILM

EMULSION	MOST USEFUL SPECTRAL RANGE	FILM	APPLICATIONS	DELIVERED PRICES		
				Per doz.	PLATES Per 3 dz.	Per Case
Spectrum Analysis #1	2500-4400A		Moderately slow, fine grained, high contrast and resolving power. Wavelength range minimizes overlapping orders. Most popular emulsion for quantitative and semiquantitative work.			
SA#1	Daylight SA/413	Darkroom SA/421				
4" x 10"				8.40	22.70	172.50
2" x 10"					14.60	208.00
Individual Rolls	12.90	12.15				
6 rolls or more	11.22	10.57				
Spectrum Analysis #3	2500-5000A		Speed about twice that of SA#1 at 3000A, moderately coarse grain, medium contrast and resolving power. Excellent when wide concentration range coverage is more important than precision.			
SA#3	SP/413					
4" x 10"				9.00	25.30	192.30
Individual Rolls	14.00	—				
6 rolls or more	12.18	—				
#33	2500-4400A		This emulsion strikes an average between SA#1 and SA#3 in speed and is superior to SA#3 in graininess. For trace analysis when background interferes using SA#3.			
4" x 10"					27.00	194.00
2" x 10"					18.00	243.00
103-0**	2500-5000A		Very fast (about 4 times that of SA#1 under similar exposure conditions), moderately coarse grain, medium contrast low resolving power emulsion. Most useful for analysis of micro-samples with weak lines or short duration exposures.			
103-F**	2500-6750A		Extended wavelength coverage for 103-0 type emulsion. Particularly useful for Na and Li determinations.			
1-N**	2500-8750A		Very fast particularly in the region 6750-8750A, coarse grain, medium contrast and resolving power. Particularly useful for the analysis of K, Rb and Cs. Despite its broad wavelength coverage it should not be used as a general emulsion because of granularity and low speed in the u.v. portion of the spectrum. Provisions for deep-freeze storage is recommended.			
4" x 10"	SP/417			21.50	—	464.40
2" x 10"				14.20	—	573.75
Individual Rolls	23.30					
6 Rolls or more	20.25					
Q-2 Ilford Plates**	below 2500A		Medium speed, grain, contrast and resolving power emulsion. Very sensitive to handling because of its thin emulsion. Useful in the determination of elements whose raies ultimes are below 2500A.			
				30.40		

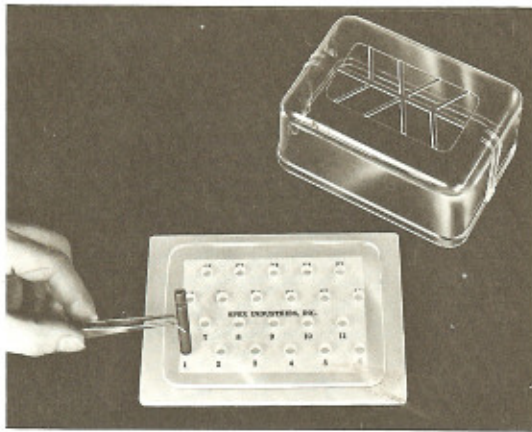
**Since Eastman Kodak recommends keeping these emulsions at temperatures no higher than 55°F, shipments are normally made via the fastest means and are packaged with dry-ice. The cost of premium transportation plus a \$5.00 packaging charge is additional in such cases.

PHOTOGRAPHIC CHEMICALS

D-19 Developer	one gallon	\$1.30	5 gal.
Kodak Fixer	one gallon	.85	
Kodak Rapid Fixer	one gallon	1.75	6.20
Indicator Stop Bath	16 oz. btl.	1.30	



Minimum order \$10.00



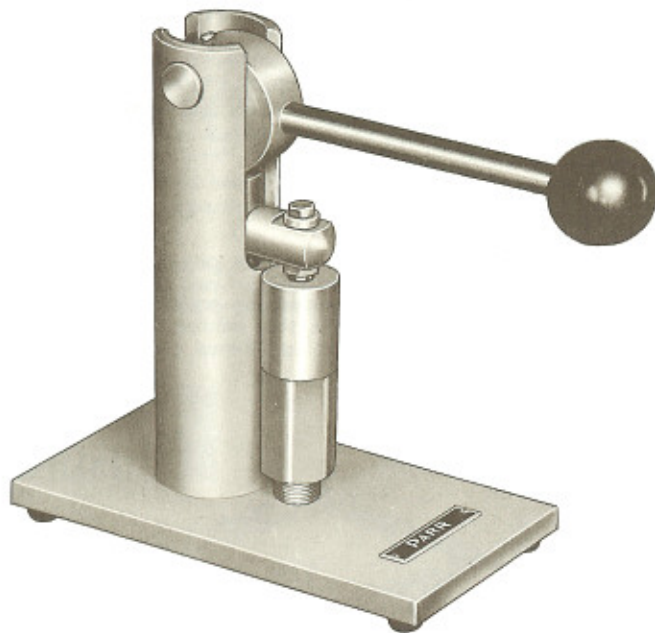
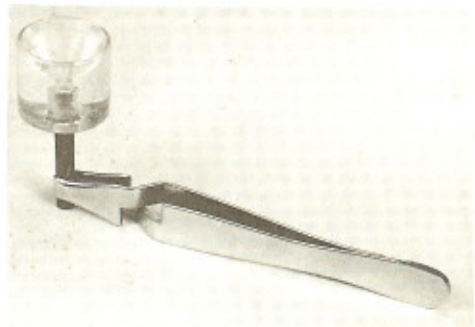
PLASTIC ELECTRODE STAND

- | | | |
|------|---|--------------|
| 3051 | Plastic Electrode Stand, for 1/4" electrodes | Each \$18.00 |
| 3052 | Plastic Electrode Stand, for 3/16" electrodes | Each \$18.00 |
| 3053 | Plastic Electrode Stand, for 1/8" electrodes | Each \$18.00 |

ELECTRODE FUNNEL and TWEEZERS

- | | | | |
|------|---|---|---------------|
| 3001 | Funnel for filling 1/4" electrodes | } | Each \$ 3.30 |
| 3002 | Funnel for filling 3/16" electrodes | | |
| 3003 | Funnel for filling 1/8" electrodes | | |
| 3503 | Tweezers, stainless steel, for handling spectroscopic graphite electrodes | | Dozen \$31.60 |

Pair \$ 3.30



PARR PELLET PRESS

(SPEX SPEAKER, Vol VIII—No. 1)

This hand operated pellet press provides enough force against a small area to prepare, from powder, a suitable tablet for the cup of an electrode. The plunger and die set of 0.118" diameter produces pellets of the proper size for L-3909, L-4000 and L-4006 Union Carbide preforms and likewise pellets from the 0.178" diameter die set fit L-3900, L-4012 and L-4018 preforms.

- | | | |
|------|--|----------|
| 3625 | Pellet Press, hand operated, without plunger and die, 9" x 5" x 10", 18 lbs. | \$ 93.00 |
| 3626 | Plunger and Die, for preparing pellets 0.118" dia., fill height of die 3/4" | \$ 57.00 |
| 3627 | Plunger and Die, for preparing pellets 0.178" dia., fill height of die 3/4" | \$ 57.00 |

Minimum order \$10.00

Spex has been preeminent as a supplier of graphite products for many years because:

- .. we maintain a large inventory from the world's leading manufacturers
- .. deliveries are made on a same-day basis, fob destination within the continental USA.
- .. "special" preforms are ordered in advance of scheduled shipments and stocked in sufficient quantities to provide immediate deliveries
- .. we "hand-pick" electrodes free of particular contaminants for your special applications
- .. our staff includes experienced spectrochemists who can offer sound advice when it is required.

In order to continue superior service at current prices in the face of rising costs, we are introducing SPEX HIGH PURITY GRAPHITE PRODUCTS.





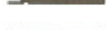






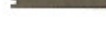
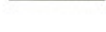








In doing so we pledge to provide you with the finest graphite products available today in terms of purity, electrical characteristics and physical dimension tolerances, as set by ASTM. Further, we pledge to keep prices, wherever possible, at levels established some years ago. One way to hold the price line is to prepare large quantities of the most popular designs and eliminate those which have shown little, if any, acceptance.

The accompanying list of preformed electrodes, rods and powders is the result of a culling process that took into account sales during the last few years. Many shapes which have been only marginally utilized are not present in this list; we have almost cut in half the variations in our 1966 catalog and still retain most of the ASTM standard preformed electrodes. These are more than ample for the majority of spectrochemical techniques. The **impurity content** of all items is guaranteed to be a **maximum of 6 ppm** for the total of all elements.

WHEN ORDERING, PLEASE NOTE:

- 1) Use **Spex catalog numbers** for the **Spex-labeled graphite products**. If your order references only our catalog number you will receive Spex electrodes in a **high purity, normal density (HPND) grade**. The **same catalog numbers with a "D" suffix** will bring you the **high density (HPHD) grade of high purity electrodes**.
- 2) For any electrode or graphite product not listed here, please contact us. We shall happily quote on special orders and quantities.
- 3) Should you prefer the National brand, specify their catalog numbers for each item; we maintain a complete stock of National products for your convenience.

SPECTROSCOPIC PREFORMED ELECTRODES

SPEX LABEL Cat. No.		Dia.		Price/ 100 Pcs.	DESCRIPTION	ASTM No.	"National" Cat. No.	
HPND+	HPHD#						AGKSP+	SPK#
SAMPLE ELECTRODES								
Necked Crater								
4000	4000D	1/4"		\$22.00	5/32" deep	S-12	L-3912	L-3712
4042	4042D			22.00	3/16" deep		L-4018	L-4218
4001	4001D	3/16"		22.00	3/16" deep	S-13	L-3903	L-3703
4004	4004D			19.00	3/32" deep		L-3906	L-3706
4005	4005D			19.00	3/16" deep	S-14	L-3909	L-3709
4029	4029D			19.00	3/16" deep		L-4000	L-4200
4030	4030D			19.00	3/32" deep		L-4006	L-4206
4033	4033D	1/8"		19.00	1/8" deep		L-3905	L-3705
Crater								
4002	4002D	1/4"		20.00	3/16" deep	S-8	L-3900	L-3700
4016	4016D			20.00	1/16" deep	S-5	L-3982	L-3782
4020	4020D	1/8"		16.00	1/4" deep		L-3979	L-3779
4034	4034D			16.00	0.059" deep		L-3975	L-3775
4035	4035D			16.00	3/16" deep		L-3977	L-3777
Micro-cup								
4079	4079D	1/4"		22.00	0.054"x0.062"			L-4257
Solution Analysis								
4011*	4011D*	1/2"		14.00	1/8" thick disc	D-1	L-4075	L-4275
4027	4027D			16.00	0.200" thick disc	D-2	L-4072	L-4272
4074	4074D	1/4"		35.00	Vacuum Cup, 3/8"x2"			L-3790
4075	4075D			35.00	Vacuum Cup, 5/8"x2"			L-3789
4074A		3/4"		12.00/ 10	Teflon Cup for 4074 & 4075			L-3791
Anode Caps & Pedestals								
4018	4018D	1/4"		16.00	9/32" deep, thinwall	S-3	L-3918	L-3718
4017	4017D	1/8"		16.00	1-1/2" long pedestal	S-1	L-3919	L-3719

*Packaged 200/box






SPEX LABEL Cat. No.		Dia.		Price/ 100 Pcs.	DESCRIPTION	ASTM No.	"National" Cat. No.	
HPND+	HPHD#						AGKSP+	SPK#

COUNTER ELECTRODES

Pointed

4010	4010D	1/4"		\$20.00	120°	C-2	L-3966	L-3766
4019	4019D	1/8"		16.00		C-1	L-4036	L-4236

Rounded

4041	4041D	1/4"		20.00	1/16"r	C-5	L-3957	L-3757
4009	4009D	3/16"		24.00	1/16"r, double ended, 2" long		L-3955	L-3755
4039	4039D			17.00	1/16"r		L-3951	L-3751
4040	4040D			18.00	1/16"r, 2" long		L-3954	L-3754
4073	4073D	1/8"		17.00	1/32"r		SP1009	

Flat

4024	4024D	1/4"		18.00		C-3	L-3921	L-3721
4072	4072D	3/16"		14.50		C-9	L-3923	L-3723
4071	4071D	1/8"		14.00		C-6	L-3922	L-3722

GRAPHITE RODS, 12" LONG**

					"National"		
4085	4085D	5/16" (.305)		45.00/25	\$ 92.50/50	L-3812	L-3832
4086	4086D	1/4" (.242)		35.50/25	71.00/50	L-3809	L-3829
4087	4087D	3/16" (.180)		30.00/25	120.00/100	L-3806	L-3826
4088	4088D	1/8" (.120)		49.00/50	98.00/100	L-3803	L-3823

**Also available in 4" and 6" lengths upon request.

REGULAR GRADE GRAPHITE RODS, 12" LONG

4090	1/4" (.242)	20.00/100	24.00/100	L-4309
4091	3/16" (.180)	18.00/100	23.00/100	L-4306
4092	1/8" (.120)	19.00/100	22.00/100	L-4303

GRAPHITE POWDER

4061	-100 mesh, for Buffering			SP-2X
4064	-200 mesh, for Buffering			SP-2
4063	-200 mesh, for Briquetting			SP-1C
	\$6.00/oz.	\$20.00/4 oz.	\$35.00/8 oz.	\$60.00/16 oz.

+HPND and AGKSP are 1.61g/cc density graphite
#HPHD and SPK are 1.90g/cc density graphite

SPEX

PLATE STORAGE CABINET

By commercial standards, the ordinary 4" x 10" spectrographic plates are an odd size and do not fit office file cabinets. The pictured unit is ideal for the purpose. It contains 9 drawers, each 11-1/4" x 4-5/8" x 12" deep and equipped with two separators per drawer. About 1000 plates in envelopes can be stored in the unit. The separators as well as the front of the drawers may be labeled for reference.



3820 Plate Storage Cabinet, with nine drawers for 4" x 10" plates. Overall dimensions 19-3/4" high x 34" wide by 12" deep. Steel, welded frame construction, finished in grey baked enamel. 74 lbs.

Each \$ 66.00

ORDERING INFORMATION

Terms are net 30 days to rated firms. To avoid delays purchasers who have not transacted any previous business with Spex Industries should include commercial references or remittances with the initial order.

Shipments will be made F.O.B. Destination anywhere within the continental United States via our choice of surface transportation. Any premium transportation, packaging or invoicing requested will be additionally invoiced.

Minimum order \$10.00

SPEX

INDUSTRIES, INC. • BOX 798, METUCHEN, N.J. 08840

BULK RATE
U. S. POSTAGE

PAID

Permit No. 166
Plainfield, N. J.