

Electro-Plate Apparatus Supplies

(Oct09)

Platinum wire electrodes

Each station needs a platinum electrode – the copper example CAN NOT be used for sample preparation. There is nothing magic about the form, just make sure you don't make contact between the electrode itself and the planchet and that you don't have an electrode that tends to accumulate and hold gas bubbles underneath, this can cause a dead spot in the planchet where nothing is deposited.

For the EP-4,-6,-8,-12 units the need is for ~25cm of platinum wire per station if you are not using the electrode arms and for about half that if you are using the electrode arms for the EPX units you need ~100mm. Given the expense of real platinum electrodes you should make a prototype out of scrap wire to determine just what length you want to work with.

Anything above 99.5% is fine, extra purity just raises the prices.
MAX diameter is .082 inches (2mm) limited by the binding post,
.051 inches (1.3mm) is an easy to work with size

Phoenix has been using SurePure as a platinum wire supplier, because of quick deliveries and flexibility to make diameters and lengths to order

SurePure ChemMetals
Florham Park, NY
973-377-4081 V
973-377-5654 F
<http://www.surepure.com>

Some vendors quote prices for standard wire gages – but you will usually be charged by actual weight plus a nominal fabrication charge.

for reference here are Std wire gage diameter in inches and mm

# 8	.125in	3.2mm
#10	.102	2.6
#12	.080	2.0
#14	.064	1.6
#16	.051	1.3
#18	.040	1.0
#20	.032	0.8
#22	.025	0.6
#24	.020	0.5

1.3mm platinum = .02306TrOz/in

Vials and lids -

20ml LSC vials and caps are made by Wheaton, but they will not sell direct but you can buy from

Fischer Scientific 800-766-7000 or VWR Scientific 800-932-5000

LSC vials 20ml poly with caps (also available without caps but delivery may be long)
Wheaton 986700 VWR 66021-677 500/case

LSC Open Caps - black phenolic

Wheaton W240517 VWR 14224-590 200/box

Wheaton 240517 VWR 16299-252 200/box - old Weaton/VWR part #'s)

both have 22-400 threads

125ml square bottles these

Thermo-Nalge 125ml rectangular 4oz HDPE

part # (37)2007-0004 typ 500/case This includes the cap which is modified in a machine shop to cut open the center

Available thru Fisher Scientific (same company really)

Planchetts

Planchetts are .750" diameter x .032"-.036" thick (20ml LSC vials) or 1.00" diameter
(Thickness depends on plastic cover, usually punched out of sheet stock that has a protective plastic cover on one polished side,

The protective cover **MUST** be stripped off before use, make the protected side the plated side

Depending on how you mount the plated samples in your alpha spectroscopy system the consistency of the planchet thickness may be important as it could effect sample spacing and thus counting efficiency

Two potential suppliers are:

AF Murphy Die and Machine (almost always in stock)

430 Hancock St

North Quincy, Ma 02171

Voice 617-328-3820 X

Metal Equipment Fabricators

141 Metal Park Dr

PO Box 9607

Columbia SC 29290

803-776-9250