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NBS SPECIAL PUBLICATION
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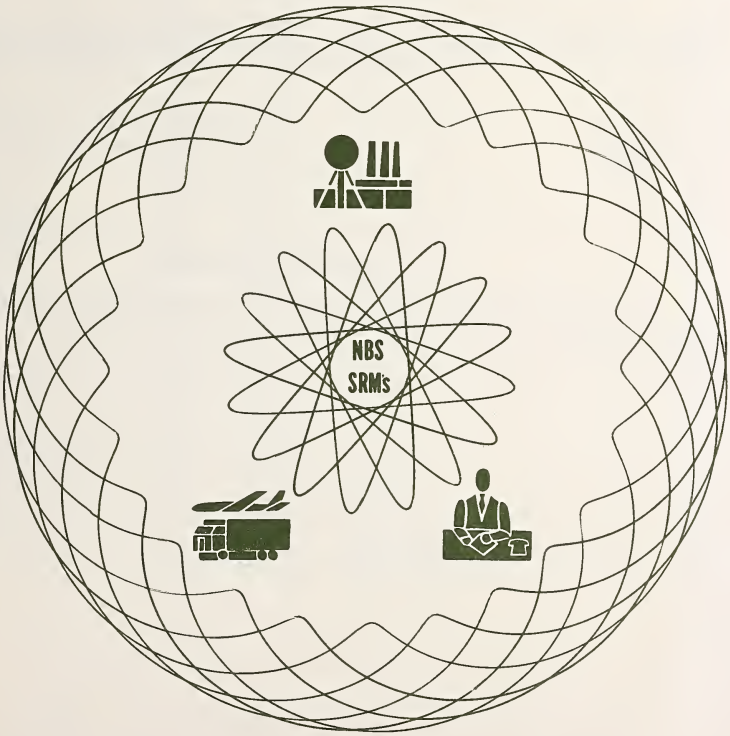
SUPPLEMENT
JULY 1971

Standard Reference Materials Price and Availability List



U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards

IMPORTANT NOTICE TO PURCHASERS AND USERS OF NBS STANDARD REFERENCE MATERIALS

The Office of Standard Reference Materials no longer issues the Quarterly Insert Sheets to update the current issue of the SRM Catalog. Instead a Standard Reference Material Availability and Price List is issued semiannually. The format has been changed to improve readability and the List is organized as follows:

Section I – A list of all classes of materials currently available arranged by Standard Reference Material (SRM), Research Material (RM), and General Material (GM) numbers, together with type, unit of issue, and current price.

Section II – A short description, arranged by catalog category, of all SRM's issued since the effective date of the current catalog and therefore not contained therein. For ease of reproduction, tables have been condensed and are, in general, not in the same format used in the catalog. (Please note that the values shown are nominal values. The actual values certified are given on the Certificate which accompanies the material.) The unit of issue and price are given after the description of each SRM.

Section III – A list, arranged by SRM, RM, and GM numbers, of all items that have gone out of stock since the effective date of the current catalog. A remarks column gives information concerning alternate SRM's, when the renewal SRM is expected, and similar information.

Section IV – Changes in policy, ordering, shipping, and information of a general nature.

Catalogs are printed without prices to eliminate the need for an annual catalog. New issues of Standard Reference Materials Availability and Price List are mailed automatically to all current customers and those who have completed our Technical Point of Contact Questionnaire.

J. Paul Cali, Chief
Office of Standard Reference Materials

July 1971

TECHNICAL INQUIRIES

All technical inquiries regarding SRM's, RM's, and GM's should be directed to the Office of Standard Reference Materials, National Bureau of Standards, Washington, D.C. 20234. Telephone (301) 921-2045.

SECTION I

AVAILABILITY AND PRICE LIST

A. STANDARD REFERENCE MATERIALS

SRM	Type	Unit	Price
1b	Limestone, argillaceous	50 g	$ 32.00
3b	Iron, white	110 g	33.00
4j	Iron, cast	150 g	33.00
5L	Iron, cast	150 g	40.50
6g	Iron, east	150 g	36.00
7g	Iron, cast (high phosphorus)	150 g	33.00
8i	Steel, bessemer, 0.1C	150 g	33.00
10g	Steel, bessemer, 0.2C	150 g	33.00
11h	Steel, B.O.H. 0.2C	150 g	33.00
12h	Steel, B.O.H. 0.4C	150 g	33.00
13g	Steel, B.O.H. 0.6C	150 g	33.00
14e	Steel, B.O.H. 0.8C	150 g	33.00
15g	Steel, B.O.H. 0.1C	150 g	33.00
16e	Steel, B.O.H. 1.1C	150 g	33.00
17	Sucrose (cane sugar)	60 g	26.00
19g	Steel, A.O.H. 0.2C	150 g	33.00
20g	Steel, AISI 1045	150 g	33.00
25c	Ore, manganese	100 g	27.00
27e	Ore, iron, Sibley	100 g	28.00
30f	Steel, Cr-V (SAE 6150)	150 g	33.00
32e	Steel, Ni-Cr (SAE 3140)	150 g	33.00
33d	Steel, Ni-Mo (SAE 4820)	150 g	33.00
36b	Steel, Cr2-Mo1	150 g	33.00
37e	Brass, sheet	150 g	33.00
39i	Benzoic acid, calorimetric	30 g	32.00
40h	Sodium oxalate, oxidimetric	60 g	32.00
41a	Dextrose (glucose)	70 g	26.00
42f	Tin, freezing-point std.	350 g	27.00
44e	Aluminum, freezing-point std.	200 g	27.00
45d	Copper, freezing-point std.	450 g	28.00
49e	Lead, freezing-point std.	600 g	28.00
50c	Steel, W18-Cr4-V1	150 g	33.00
51b	Steel, electric furnace 1.2C	150 g	33.00
52c	Bronze, cast	150 g	33.00
53e	Bearing metal, lead-base	150 g	33.00
54d	Bearing metal, tin-base	170 g	33.00
55e	Iron, ingot	150 g	33.00
57	Silicon, refined	60 g	29.00
59a	Ferrosilicon (Si 50%)	50 g	40.00
64b	Ferrochromium (high carbon)	100 g	30.50
65d	Steel, basic electric, 0.3C	150 g	33.00
69a	Bauxite	50 g	27.00
70a	Feldspar, potash	40 g	32.00
71	Calcium molybdate	60 g	29.00
72f	Steel, Cr-Mo (SAE X4130)	150 g	33.00
73c	Steel, stainless Cr13 (SAE420)	150 g	33.00
82b	Iron, nickel-chromium cast	150 g	33.00
83e	Arsenic trioxide, oxidimetric	75 g	32.00
84h	Potassium phthalate, acid, acidimetric	60 g	26.00
85b	Aluminum alloy, wrought	75 g	33.00
86c	Aluminum alloy, casting	75 g	33.00
87a	Aluminum-silicon alloy	75 g	33.00
88a	Limestone, dolomitic	50 g	32.00
89	Glass, lead-barium	45 g	27.00
90	Ferrophosphorus	75 g	29.00
91	Glass, opal	45 g	27.00
92	Glass, low boron	45 g	27.00
93	Glass, high boron	45 g	27.00
94b	Zinc-base die-casting alloy	150 g	33.00
97a	Clay, flint	60 g	82.00
98a	Clay, plastic	60 g	82.00
99a	Feldspar, soda	40 g	32.00
100b	Steel, manganese (SAE T1340)	150 g	33.00
101f	Steel, stainless, Cr18-Ni9 (SAE 304)	100 g	33.00
103a	Chrome refractory	60 g	27.00
104	Magnesite, burned	60 g	27.00
105	Steel, high-sulfur 0.2C carbon only	150 g	25.00
106b	Steel, Cr-Mo-Al (Nitralloy G)	150 g	33.00
107b	Iron, cast, Ni-Cr-Mo	150 g	33.00
111b	Steel, Ni-Mo (SAE 4620)	150 g	33.00
112	Silicon carbide	85 g	27.00
113	Ore, zinc, (Tri-State concentrate)	50 g	27.00
114L	Cement, turbidimetric and fineness std.	set	$ 53.00
115a	Iron, cast, Cu-Ni-Cr	150 g	33.00
121d	Steel, Cr17-Ni11-Ti0.3, AISI 321	150 g	33.00
122e	Iron, cast, (car-wheel)	150 g	33.00
123c	Steel, Cr17-Ni11-Nb0.7, AISI 348	150 g	33.00
124d	Bronze (Cu85-Pb5-Sn5-Zn5) ounce metal	150 g	33.00
125b	Steel, high silicon	150 g	33.00
126b	Steel, Ni36 (High nickel)	150 g	33.00
127b	Solder (Sn40-Pb60)	150 g	33.00
131b	Steel, low-carbon silicon	100 g	27.00
133a	Steel, stainless (Cr13-Mo0.3-S0.3)	150 g	33.00
134a	Steel, Mo8-W2-Cr4-V1	150 g	33.00
136c	Potassium dichromate, oxidimetric	60 g	32.00
138	Ore, tin, (N.E.I. concentrate)	50 g	27.00
139a	Steel, Cr-Ni-Mo (AISI 8640)	150 g	33.00
140b	Benzoic acid	2 g	27.50
141b	Acetanilide	2 g	27.50
142	Anisic acid	2 g	26.00
143b	Cystine	2 g	29.00
147	Triphenyl phosphate	2 g	27.50
148	Nicotinic acid	2 g	23.50
152a	Steel, B.O.H. 0.5C, 0.03 Sn	150 g	33.00
153a	Steel, Co8-Mo9-W2-Cr4-V2	150 g	33.00
155	Steel, Cr0.5-W0.5	150 g	33.00
157a	Nickel silver (Cu58-Ni12-Zn29)	135 g	33.00
158a	Bronze, silicon	150 g	33.00
160b	Steel, stainless, Cr19-Ni14-Mo3 (SAE 316)	150 g	33.00
162a	Monel-type (Ni64-Cu3l)	150 g	33.00
163	Steel, 0.9C, 0.9Mn, 1.0Cr	100 g	40.00
166c	Steel, stainless, low carbon	100 g	25.00
168	Cobalt-base alloy, Co41-Mo4-Nb3-Ta1-W4	150 g	33.00
171	Magnesium-base alloy	100 g	33.00
173a	Titanium alloy 6Al-4V	100 g	33.00
174	Titanium alloy 4Al-4Mn	100 g	33.00
176	Titanium alloy 5Al-2.5Sn	100 g	33.00
178	Steel, basic oxygen 0.4C	150 g	33.00
180	Fluorspar, high-grade	120 g	40.00
181	Ore, lithium (Spodumene)	45 g	27.00
182	Ore, lithium (Petalite)	45 g	27.00
183	Ore, lithium (Lepidolite)	45 g	27.00
184	Bronze, leaded-tin	150 g	33.00
185d	Acid potassium phthalate	60 g	35.00
186Ic	Potassium dihydrogen phosphate	30 g	35.00
186IIc	Disodium hydrogen phosphate	30 g	30.00
187b	Borax	30 g	30.00
188	Potassium hydrogen tartrate	60 g	30.00
189	Potassium tetroxalate	65 g	30.00
191	Sodium bicarbonate	30 g	33.00
192	Sodium carbonate	30 g	33.00
196	Ferrochromium (low carbon)	100 g	45.00
198	Silica refractory (0.2% Al_2O_3)	45 g	27.00
199	Silica refractory (0.5% Al_2O_3)	45 g	27.00
217b-5	2,2,4-Trimethylpentane	5 ml	40.00
217b-8S	2,2,4-Trimethylpentane	8 ml	65.00
217b-25	2,2,4-Trimethylpentane	25 ml	180.00
217b-50	2,2,4-Trimethylpentane	50 ml	330.00
300	Toluidine red toner	40 g	26.00
301	Yellow ocher	45 g	26.00
302	Raw sienna	45 g	26.00
303	Burnt sienna	50 g	26.00
304	Raw umber	45 g	26.00
305	Burnt umber	50 g	26.00
306	Venetian red	60 g	26.00
307	Metallic brown	60 g	26.00
308	Indian red	50 g	26.00
309	Mineral red	65 g	26.00
310	Bright red oxide	50 g	26.00
311	Carbon black (high color)	10 g	26.00
312	Carbon black (all purpose)	20 g	26.00
313	Black iron oxide	42 g	26.00
314	Yellow iron oxide, light lemon	20 g	26.00
315	Yellow iron oxide, lemon	20 g	26.00

SRM	Type	Unit	Price
316	Yellow iron oxide, orange	25 g	$ 26.00
317	Yellow iron oxide, dark orange	40 g	26.00
318	Lampblack	15 g	26.00
319	Primrose chrome yellow	65 g	26.00
320	Lemon chrome yellow	60 g	26.00
321	Medium chrome yellow	65 g	26.00
322	Light chrome orange	100 g	26.00
323	Dark chrome orange	100 g	26.00
324	Ultramarine blue	37 g	26.00
325	Iron blue	25 g	26.00
326	Light chrome green	60 g	26.00
327	Medium chrome green	50 g	26.00
328	Dark chrome green	45 g	26.00
335	Steel, B.O.H. 0.1C (carbon only)	300 g	27.00
337	Steel, B.O.H. 1.1C (carbon only)	300 g	27.00
339	Steel, stainless, Cr17-Ni9-0.2Se (SAE 303Se)	150 g	40.00
340	Ferroniobium	100 g	45.00
341	Iron, ductile	150 g	33.00
342	Iron, nodular	150 g	33.00
342a	Iron, nodular	150 g	35.00
343	Steel, stainless, Cr16-Ni2 (SAE 431)	150 g	33.00
344	Steel, stainless, Cr15-Ni7-Mo2-Al1	150 g	33.00
345	Steel, stainless, Cr16-Ni4-Cu3	150 g	33.00
346	Steel, valve (Cr22-Ni4-Mn9)	150 g	40.00
348	Steel, Ni26-Cr15 (A286)	150 g	33.00
349	Nickel-base alloy (Ni57-Co14-Cr20)	150 g	33.00
350	Benzoic acid, acidimetric	30 g	26.00
352	Titanium, unalloyed, for hydrogen	20 g	35.00
353	Titanium, unalloyed, for hydrogen	20 g	35.00
354	Titanium, unalloyed, for hydrogen	20 g	35.00
355	Titanium, unalloyed, for oxygen	20 g	40.00
356	Titanium alloy, 6Al-4V	20 g	40.00
360a	Zircaloy-2	100 g	55.00
361	Steel, AISI 4340, chip	150 g	33.00
362	Steel, AISI 94B17 (modified), chip	150 g	33.00
363	Steel, Cr-V (modified), chip	150 g	33.00
364	Steel, high carbon (modified), chip	150 g	33.00
365	Iron, electrolytic, chip	150 g	33.00
366	Set 1 ea of 361, 362, 363, 364 and 365	set	100.00
370d	Zinc oxide (Set of 4)	8 kg	33.80
371f	Sulfur (Set of 4)	6 kg	38.00
372g	Stearic acid (Set of 4)	3.2 kg	31.00
373f	Benzothiazyl disulfide (Set of 4)	2 kg	40.00
374c	Tetramethylthiuram disulfide	2kg	40.00
375f	Channel black (Set of 4)	28 kg	67.00
376a	Light magnesia	450 g	25.25
377	Phenyl-beta-naphthylamine	600 g	26.75
378a	Oil furnace black (Set of 4)	28 kg	36.00
379	Conducting black	5.5 kg	26.25
380	Calcium carbonate	6 kg	25.25
381	Calcium silicate	4 kg	25.25
382a	Gas furnace black (Set of 4)	32 kg	52.00
383	Mercaptobenzothiazole (Set of 4)	3.2 kg	33.00
384	N-tertiary-Butyl-2-benzo-thiazolesulfenamide (Set of 4)	3.2 kg	37.00
385b	Natural rubber	31.4 kg	105.00
386g	Styrene-butadiene type 1500	34 kg	67.00
388e	Butyl rubber	37 kg	105.00
389	Styrene-butadiene, type 1503	34 kg	54.00
391	Acrylonitrile-butadiene rubber	25 kg	105.00
404a	Steel, basic electric	ea	30.00
405a	Steel, medium manganese	ea	30.00
407a	Steel, chromium-vanadium	ea	30.00
408a	Steel, chromium-nickel	ea	30.00
409b	Steel, nickel	ea	30.00
413	Steel, A.O.H. 0.4C	ea	30.00
414	Steel, Cr-Mo (SAE 4140)	ea	30.00
417a	Steel, B.O.H. 0.4C	ea	30.00
418	Steel, Cr-Mo (SAE X4130)	ea	30.00
420a	Iron, ingot	ea	30.00
427	Steel, Cr-Mo (boron only) (SAE 4150)	ea	30.00
432	Tin B	ea	35.00
436	Steel, special Cr6-Mo3-W10	ea	35.00
437	Steel, special Cr8-Mo2-W3-Co3	ea	35.00
438	Steel, Mo high speed (AISI-SAE-M30)	ea	35.00
439	Steel, Mo high speed (AISI-SAE-M36)	ea	35.00

SRM	Type	Unit	Price
440	Steel, special W high speed Cr2-W13-Co12	ea	$ 35.00
441	Steel, W high speed (AISI-SAE-T1)	ea	35.00
442	Steel, stainless, Cr16-Ni10	ea	35.00
443	Steel, stainless, Cr18.5-Ni9.5	ea	35.00
444	Steel, stainless, Cr20.5-Ni10	ea	35.00
445	Steel, stainless, Cr13-Mo0.9 (Modified AISI 410)	ea	35.00
446	Steel, stainless, Cr18-Ni9 (Modified AISI 321)	ea	35.00
447	Steel, stainless, Cr24-Ni13 (Modified AISI 309)	ea	35.00
448	Steel, stainless, Cr9-Mo0.3 (Modified AISI 403)	ea	35.00
449	Steel, stainless, Cr5.5-Ni6.5	ea	35.00
450	Steel, stainless, Cr3-Ni25	ea	35.00
461	Steel, low-alloy A	ea	35.00
462	Steel, low-alloy B	ea	35.00
463	Steel, low-alloy C	ea	35.00
464	Steel, low-alloy D	ea	35.00
465	Iron, ingot E	ea	35.00
466	Iron, ingot F	ea	35.00
467	Steel, low-alloy G	ea	35.00
468	Steel, low-alloy H	ea	35.00
480	Microprobe, Tungsten - 20% Molybdenum alloy	ea	125.00
481	Microprobe, Gold-silver wires	set	130.00
482	Microprobe, Gold-copper wires	set	130.00
483	Microprobe, Iron-3% silicon	ea	50.00
485	Austenite in ferrite	ea	85.00
493	Iron carbide in ferrite	ea	85.00
592	Hydrocarbon blends - Blend No. 1	set	32.00
593	Hydrocarbon blends - Blend No. 2	set	32.00
594	Hydrocarbon blends - Blend No. 3	set	32.00
595	Hydrocarbon blends - Blend No. 4	set	32.00
596	Hydrocarbon blends - Blend No. 5	set	32.00
597	Hydrocarbon blends - Blend No. 6	set	32.00
598	Hydrocarbon blends - Blend No. 7	set	32.00
599	Hydrocarbon blends - Blend No. 8	set	32.00
610	Glass, trace elements 500 ppm, 3 mm	ea	50.00
611	Glass, trace elements 500 ppm, 1 mm	ea	50.00
612	Glass, trace elements 50 ppm, 3 mm	ea	50.00
613	Glass, trace elements 50 ppm, 1 mm	ea	50.00
614	Glass, trace elements 1 ppm, 3 mm	ea	50.00
615	Glass, trace elements 1 ppm, 1 mm	ea	50.00
616	Glass, trace elements .02 ppm, 3 mm	ea	50.00
617	Glass, trace elements .02 ppm, 1 mm	ea	50.00
618	Glass, trace elements, 3 mm	set	150.00
619	Glass, trace elements, 1 mm	set	150.00
625	Zinc-base A	ea	50.00
626	Zinc-base B	ea	50.00
627	Zinc-base C	ea	50.00
628	Zinc-base D	ea	50.00
629	Zinc-base E	ea	50.00
630	Zinc-base F	ea	50.00
631	Zinc spelter (Modified)	ea	50.00
641	Titanium alloy 8Mn(A)	ea	50.00
642	Titanium alloy 8Mn(B)	ea	50.00
643	Titanium alloy 8Mn(C)	ea	50.00
644	Titanium alloy 2Cr-2Fe-2Mo(A)	ea	50.00
645	Titanium alloy 2Cr-2Fe-2Mo(B)	ea	50.00
646	Titanium alloy 2Cr-2Fe-2Mo(C)	ea	50.00
654a	Titanium alloy, 6A1-4V	ea	35.00
661	Steel, AISI 4340, rod (Sold in sets only–666, 668)		
662	Steel, AISI 94B17 (modified), rod (Sold in sets only–667, 668)		
663	Steel, Cr-V (modified), rod (Sold in sets only–667, 668)		
664	Steel, high carbon (modified), rod (Sold singly and in sets–668)	ea	25.00
665	Iron, electrolytic, rod (Sold in sets only–666, 668)		
666	Set of one each (661 & 665)	set	40.00
667	Set of one each (662 & 663)	set	40.00
668	Set of one each (661, 662, 663, 664 and 665)	set	75.00
671	Nickel oxide 1	25 g	35.00
672	Nickel oxide 2	25 g	35.00

SRM	Type	Unit	Price
673	Nickel oxide 3	25 g	$ 35.00
680 L-1	Platinum, high-purity	ea	40.00
680 L-2	Platinum, high-purity	ea	190.00
681 L-1	Platinum, doped	ea	40.00
681 L-2	Platinum, doped	ea	190.00
682	Zinc, high-purity	ea	90.00
683	Zinc metal	ea	55.00
685-R	Gold, high-purity (rod)	ea	55.00
685-W	Gold, high-purity (wire)	ea	55.00
700b	Paper, light-sensitive	pkg	40.00
701b	Paper, standard faded strips	bklt	155.00
702	Plastic chips, light-sensitive	pkg	40.00
703	Plastic chips, light-sensitive	pkg	40.00
704a	Paper, internal tearing resistance	set (4)	56.20
705	Polystyrene, narrow molecular weight	2 g	33.00
706	Polystyrene, broad molecular weight	18 g	33.00
710	Glass, soda-lime silica	2 lb	52.00
711	Glass, lead-silica	3 lb	75.00
712	Glass, mixed alkali lead silicate	0.5 lb	38.00
713	Glass, dense barium crown	0.5 lb	38.00
714	Glass, alkaline earth alumina silicate	0.5 lb	38.00
715	Glass, alkali-free aluminosilicate	200 g	38.00
716	Glass, neutral (borosilicate)	250 g	38.00
717	Glass, standard, borosilicate	1 lb	71.00
720	Sapphire, synthetic (Al_2O_3)	15 g	56.00
723	Tris(hydroxymethyl)aminomethane, basimetric	50 g	50.75
724	Tris(hydroxymethyl)aminomethane, calorimetric	50 g	40.00
725	Mossbauer Differential Chemical Shift	ea	155.00
726	Selenium	1 lb	45.00
728	Zinc	450 g	43.00
734S	Iron, electrolytic, thermal conductivity, rod 6.4 mm dia., 305 mm long	ea	75.00
734L1	Iron, electrolytic, thermal conductivity, rod, 31.8 mm dia., 152 mm long	ea	85.00
734L2	Iron, electrolytic, thermal conductivity, rod 31.8 mm dia., 305 mm long	ea	150.00
736L1	Copper, thermal expansion, 2 in.	ea	71.00
736L2	Copper, thermal expansion, 4 in.	ea	119.00
736L3	Copper, thermal expansion, 6 in.	ea	167.00
739L1	Fused-silica, thermal expansion, 2 in.	ea	71.00
739L2	Fused-silica, thermal expansion, 4 in.	ea	119.00
739L3	Fused-silica, thermal expansion, 6 in.	ea	167.00
740	Zinc, freezing-point std.	350 g	70.00
742	Alumina, high temperature melting point	10 g	62.50
745	Gold, vapor pressure std.	ea	85.00
746	Cadmium, vapor pressure std.	ea	65.00
748	Silver, vapor pressure std.	ea	75.00
755	Quartz, SiO_2	2 g	35.00
756	Potassium nitrate	5 g	35.00
803a	Steel, A.O.H. 0.6C	ea	30.00
D803a	Steel, A.O.H. 0.6C	ea	35.00
804a	Steel, basic electric	ea	30.00
805a	Steel, medium manganese	ea	30.00
D805a	Steel, medium manganese	ea	35.00
807a	Steel, chromium-vanadium	ea	30.00
D807a	Steel, chromium-vanadium	ea	35.00
808a	Steel, chromium-nickel	ea	30.00
809b	Steel, nickel	ea	30.00
D809b	Steel, nickel	ea	35.00
810a	Steel, Cr2-Mo1	ea	30.00
817a	Steel, B.O.H. 0.4C	ea	30.00
820a	Iron, ingot	ea	30.00
D820a	Iron, ingot	ea	35.00
821	Steel, Cr-W, 0.9C	ea	30.00
827	Steel, Cr-Mo (boron only) (SAE 4150)	ea	30.00
836	Steel, special (Cr6-Mo3-W10)	ea	42.50
D836	Steel, special (Cr6-Mo3-W10)	ea	50.00
837	Steel, special (Cr8-Mo2-W3-Co3)	ea	42.50
D837	Steel, special (Cr8-Mo2-W3-Co3)	ea	50.00
838	Steel, Mo high speed (AISI-SAE-M30)	ea	42.50
D838	Steel, Mo high speed (AISI-SAE-M30)	ea	50.00
839	Steel, Mo high speed (AISI-SAE-M36)	ea	42.50
D839	Steel, Mo high speed (AISI-SAE-M36)	ea	50.00
840	Steel, special W high speed (Cr2-W13-Co12)	ea	42.50
D840	Steel, special W high speed (Cr2-W13-Co12)	ea	50.00
841	Steel, W high speed (AISI-SAE-TI)	ea	42.50
D841	Steel, W high speed (AISI-SAE-TI)	ea	50.00
845	Steel, Cr13-Mo0.9 (Modified AISI 410)	ea	42.50
D845	Steel, Cr13-Mo0.9 (Modified AISI 410)	ea	50.00
846	Steel, Cr18-Ni9 (Modified AISI 321)	ea	42.50
D846	Steel, Cr18-Ni9 (Modified AISI 321)	ea	50.00
D847	Steel, Cr24-Ni13 (Modified AISI 309)	ea	50.00
D848	Steel, Cr9-Mo0.3 (Modified AISI 403)	ea	50.00
849	Steel, Cr5.5-Ni6.5	ea	42.50
D849	Steel, Cr5.5-Ni6.5	ea	50.00
850	Steel, Cr3-Ni25	ea	42.50
D850	Steel, Cr3-Ni25	ea	50.00
911	Cholesterol, clinical	0.5 g	30.00
912	Urea, clinical	25 g	36.00
913	Uric acid, clinical	10 g	30.00
914	Creatinine, clinical	10 g	36.00
915	Calcium carbonate, clinical	20 g	30.00
916	Bilirubin, clinical	100 mg	92.00
917	D-Glucose, clinical	25 g	43.00
918	Potassium chloride, clinical	30 g	40.00
922	Tris(hydroxymethyl)aminomethane clinical	25 g	40.00
923	Tris(hydroxymethyl)aminomethane hydrochloride, clinical	35 g	40.00
930	Glass filters for spectrophotometry, clinical	set (3)	300.00
944	Plutonium sulfate tetrahydrate assay	0.5 g	76.00
945	Plutonium metal, std matrix	5 g	500.00
948	Plutonium sulfate hydrate	0.25 g	66.50
949c	Plutonium metal assay	0.5 g	123.00
950a	Uranium oxide (U_3O_8)	25 g	28.25
951	Boric acid	100 g	55.00
952	Boric acid, 95% enriched ^{10}B	0.25 g	40.00
953	Neutron density monitor wire	ea	35.00
975	Sodium chloride - isotopic	0.25 g	40.00
976	Copper metal - isotopic	0.25 g	40.00
977	Sodium bromide - isotopic	0.25 g	40.00
978	Silver nitrate - isotopic	0.25 g	40.00
979	Chromium nitrate - isotopic	0.25 g	40.00
980	Magnesium metal - isotopic	0.25 g	40.00
981-3	Lead - isotopic	set	105.00
984	Rubidium chloride, isotopic	1 g	43.00
1000	Enameled iron plaques	set (3)	25.00
1002b	Hardboard sheet, 4 specimens	set	35.00
1003	Glass spheres (5-30 μm)	40 g	32.50
1010a	Microcopy test chart	set	10.00
1011	Cement, Portland	set	27.50
1013	Cement, Portland	set	27.50
1014	Cement, Portland	set	27.50
1015	Cement, Portland	set	27.50
1016	Cement, Portland	set	27.50
1019	Glass spheres (sieves No.8-18)	100 g	30.50
1020	Zinc sulfide phosphor	14 g	23.50
1021	Zinc silicate phosphor	28 g	23.50
1022	Zinc sulfide phosphor	14 g	23.50
1023	Zinc-cadmium sulfide phosphor (Ag activator)	14 g	23.50
1024	Zinc-cadmium sulfide phosphor (Cu activator)	14 g	23.50
1025	Zinc phosphate phosphor	28 g	23.50
1026	Calcium tungstate phosphor	28 g	23.50
1027	Magnesium tungstate phosphor	28 g	23.50
1028	Zinc silicate phosphor	28 g	23.50
1029	Calcium silicate phosphor	14 g	23.50
1030	Magnesium arsenate phosphor	28 g	23.50
1031	Calcium halophosphate phosphor	28 g	23.50
1032	Barium silicate phosphor	28 g	23.50
1033	Calcium phosphate phosphor	28 g	23.50
1051b	Barium cyclohexanebutyrate	5 g	31.00
1052b	Bis(1-phenyl-1,3-butanedione) oxovanadium (IV)	5 g	31.00
1053a	Cadmium cyclohexanebutyrate	5 g	31.00
1055b	Cobalt cyclohexanebutyrate	5 g	31.00
1057b	Dibutyltin bis(2-ethylhexanoate)	5 g	31.00
1059b	Lead cyclohexanebutyrate	5 g	31.00
1060a	Lithium cyclohexanebutyrate	5 g	31.00
1061c	Magnesium cyclohexanebutyrate	5 g	31.00
1062a	Manganous cyclohexanebutyrate	5 g	31.00

SRM	Type	Unit	Price
1063a	Menthyl borate	5 g	$ 31.00
1064	Mercuric cyclohexanebutyrate	5 g	31.00
1065b	Nickel cyclohexanebutyrate	5 g	31.00
1066a	Octaphenylcyclotctrasiloxane	5 g	31.00
1069b	Sodium cyclohexanebutyrate	5 g	31.00
1070a	Strontium cyclohexanebutyrate	5 g	31.00
1071a	Triphenyl phosphate	5 g	31.00
1073b	Zinc cyclohexanebutyrate	5 g	31.00
1074a	Calcium 2-ethylhexanoate	5 g	31.00
1075a	Aluminum 2-ethylhexanoate	5 g	31.00
1076	Potassium crucate	5 g	31.00
1077a	Silver 2-ethylhexanoate	5 g	31.00
1078a	Tris(1-phenyl-1,3-butanediono) chromium (III)	5 g	31.00
1079b	Tris(1-phenyl-1,3-butanediono) iron (III)	5 g	31.00
1080	Bis(1-phenyl-1,3-butanediono) copper (II)	5 g	31.00
1090	Iron, ingot	ea	55.00
1091	Steel, stainless (AISI 431)	ea	55.00
1092	Steel, vacuum-melted	ea	55.00
1093	Steel, valve	ea	55.00
1094	Steel, maraging	ea	55.00
1095	Steel, AISI 4340, rod	ea	33.00
1096	Steel, AISI 94B17 (modified), rod	ea	33.00
1099	Iron, electrolytic, rod	ea	33.00
1101	Brass, cartridge B	ea	65.00
C 1101	Brass, cartridge B	ea	65.00
1102	Brass, cartridge C	ea	65.00
C 1102	Brass, cartridge C	ea	65.00
1103	Brass, free-cutting A	ea	65.00
C 1103	Brass, free-cutting A	ea	65.00
1104	Brass, free-cutting B	ea	65.00
C 1104	Brass, free-cutting B	ea	65.00
1105	Brass, free-cutting C	ea	65.00
C 1105	Brass, free-cutting C	ea	65.00
1106	Brass, naval A	ea	65.00
C 1106	Brass, naval A	ea	65.00
1107	Brass, naval B	ea	65.00
C 1107	Brass, naval B	ea	65.00
1108	Brass, naval C	ea	65.00
C 1108	Brass, naval C	ea	65.00
1109	Brass, red A	ea	65.00
C 1109	Brass, red A	ea	65.00
1110	Brass, red B	ea	65.00
C 1110	Brass, red B	ea	65.00
1111	Brass, red C	ea	65.00
C 1111	Brass, red C	ea	65.00
1112	Gilding metal A	ea	65.00
C 1112	Gilding metal A	ea	65.00
1113	Gilding metal B	ea	65.00
C 1113	Gilding metal B	ea	65.00
1114	Gilding metal C	ea	65.00
C 1114	Gilding metal C	ea	65.00
1115	Bronze, commercial A	ea	65.00
C 1115	Bronze, commercial A	ea	65.00
1116	Bronze, commercial B	ea	65.00
C 1116	Bronze, commercial B	ea	65.00
1117	Bronze, commercial C	ea	65.00
C 1117	Bronze, commercial C	ea	65.00
1118	Brass, aluminum A	ea	65.00
C 1118	Brass, aluminum A	ea	65.00
1119	Brass, aluminum B	ea	65.00
C 1119	Brass, aluminum B	ea	65.00
1120	Brass, aluminum C	ea	65.00
C 1120	Brass, aluminum C	ea	65.00
1121	Beryllium copper CABRA alloy 165-170	ea	65.00
C 1121	Beryllium copper CABRA alloy 165-170	ea	65.00
1122	Beryllium copper CABRA alloy 25-172	ea	65.00
C 1122	Beryllium copper CABRA alloy 25-172	ea	65.00
1123	Beryllium copper CABRA alloy 10-175	ea	65.00
C 1123	Beryllium copper CABRA alloy 10-175	ea	65.00
1131	Solder (Sn40-Pb60)	ea	50.00
1132	Bearing metal, lead-base	ea	50.00
1134	Steel, high silicon	ea	50.00
1138	Steel, cast 1	ea	65.00
1139	Steel, cast 2	ea	65.00
1140	Iron, ductile 1	ea	65.00
1141	Iron, ductile 2	ea	$ 65.00
1142	Iron, ductile 3	ea	65.00
1143	Iron, blast furnace 1	ea	65.00
1144	Iron, blast furnace 2	ea	65.00
1147	Iron, white cast	ea	65.00
1148	Iron, white	ea	65.00
1149	Iron, white	ea	65.00
1152	Steel, stainless B (Cr18-Ni10)	ea	65.00
1154	Steel, stainless D (Cr19-Ni10)	ea	65.00
1155	Steel, stainless, Cr18-Ni12-Mo2	ea	65.00
1156	Steel, maraging (disk form)	ea	65.00
1159	Nickel-base alloy, 49% Ni, balance Fe	ea	65.00
1160	Nickel-base alloy, 80% Ni, 4% Mo, balance Fe	ea	65.00
1165	Iron, ingot E	ea	65.00
1166	Iron, ingot F	ea	65.00
1167	Steel, low-alloy G	ea	65.00
1171	Steel, Cr17-Ni11-Ti0.3, AISI 321, disk	ea	50.00
1172	Steel, Cr17-Ni11-Nb0.7, AISI 348, disk	ea	50.00
1185	Steel, stainless, AMS 5360A, AISI 316 alloy	ea	65.00
1206-2	High temperature alloy, Rene 41	ea	50.00
1207-1	High temperature alloy, Waspaloy (No. 1)	ea	50.00
1207-2	High temperature alloy, Waspaloy (No. 2)	ea	50.00
1208-1	High temperature alloy, Inco 718 (No. 1)	ea	50.00
1208-2	High temperature alloy, Inco 718 (No. 2)	ea	50.00
1209	High temperature alloy, Set, 1 ea of 1206-2, 1207-1, 1207-2, 1208-1, and 1208-2	set	185.00
1210	Zirconium metal A	ea	90.00
1261	Steel, AISI 4340, disk	ea	45.00
1262	Steel, AISI 94B17 (modified) disk	ea	45.00
1263	Steel, Cr-V (modified), disk	ea	45.00
1264	Steel, high carbon (modified), disk	ea	45.00
1265	Iron, electrolytic, disk	ea	45.00
1266	Set, 1 ea of 1261, 1262, 1263, 1264, and 1265	set	175.00
1301	Metal coating thickness	ea	35.00
1302	Metal coating thickness	ea	35.00
1303	Metal coating thickness	ea	35.00
1304	Metal coating thickness	ea	35.00
1305	Metal coating thickness	ea	35.00
1306	Metal coating thickness	ea	35.00
1307	Metal coating thickness	ea	35.00
1308	Metal coating thickness	ea	35.00
1309	Metal coating thickness	ea	35.00
1310	Metal coating thickness	ea	35.00
1311	Metal coating thickness	ea	35.00
1312	Metal coating thickness	ea	35.00
1313	Metal coating thickness	ea	35.00
1314	Metal coating thickness	ea	35.00
1315	Metal coating thickness	ea	35.00
1316	Metal coating thickness	ea	35.00
1317	Metal coating thickness	ea	35.00
1318	Metal coating thickness	ea	35.00
1319	Metal coating thickness	ea	35.00
1320	Metal coating thickness	ea	35.00
1331	Metal coating thickness	ea	35.00
1332	Metal coating thickness	ea	35.00
1333	Metal coating thickness	ea	35.00
1334	Metal coating thickness	ea	35.00
1335	Metal coating thickness	ea	35.00
1336	Metal coating thickness	ea	35.00
1337	Metal coating thickness	ea	35.00
1338	Metal coating thickness	ea	35.00
1339	Metal coating thickness	ea	35.00
1341	Metal coating thickness	ea	35.00
1342	Metal coating thickness	ea	35.00
1343	Metal coating thickness	ea	35.00
1344	Metal coating thickness	ea	35.00
1345	Metal coating thickness	ea	35.00
1346	Metal coating thickness	ea	35.00
1351	Metal coating thickness	set (2)	47.00
1352	Metal coating thickness	set (2)	47.00
1353	Metal coating thickness	set (2)	47.00
1361	Metal coating thickness	set (4)	71.00
1362	Metal coating thickness	set (4)	71.00
1363	Metal coating thickness	set (4)	71.00
1364	Metal coating thickness	set (4)	71.00
1365	Metal coating thickness	set (4)	71.00

SRM	Type	Unit	Price
1366	Metal coating thickness	set (4)	$ 71.00
1367	Metal coating thickness	set (4)	71.00
1371	Gold coating thickness	ea	66.00
1372	Gold coating thickness	ea	66.00
1373	Gold coating thickness	ea	66.00
1374	Gold coating thickness	ea	66.00
1375	Gold coating thickness	ea	66.00
1376	Gold coating thickness	ea	66.00
1377	Gold coating thickness	ea	66.00
1378	Gold coating thickness	ea	66.00
1381	Gold coating thickness	set (2)	109.00
1382	Gold coating thickness	set (2)	109.00
1383	Gold coating thickness	set (2)	109.00
1384	Gold coating thickness	set (2)	109.00
1385	Gold coating thickness	set (2)	109.00
1386	Gold coating thickness	set (2)	109.00
1398	Gold coating thickness	set (4)	182.00
1399	Gold coating thickness	set (4)	182.00
1402	Emittance std., 1/2 in. disk	ea	180.00
1403	Emittance std., 7/8 in. disk	ea	190.00
1404	Emittance std., 1 in. disk	ea	205.00
1405	Emittance std., 1 1/8 in. disk	ea	240.00
1406	Emittance std., 1 1/4 in. disk	ea	255.00
1407	Emittance std., 2 in. x 2 in.	ea	390.00
1408	Emittance std., 1 in. x 10 in.	ea	755.00
1409	Emittance std., 3/4 in. x 10 in.	ea	605.00
1420	Emittance std., 1/2 in. disk	ea	180.00
1421	Emittance std., 7/8 in. disk	ea	180.00
1422	Emittance std., 1 in. disk	ea	180.00
1423	Emittance std., 1 1/8 in. disk	ea	180.00
1424	Emittance std., 1 1/4 in. disk	ea	180.00
1425	Emittance std., 2 in. x 2 in.	ea	180.00
1427	Emittance std., 3/4 in. x 10 in.	ea	180.00
1428	Emittance std., 1/4 in. x 8 in.	ea	180.00
1440	Emittance std., 1/2 in. disk	ea	180.00
1441	Emittance std., 7/8 in. disk	ea	180.00
1442	Emittance std., 1 in. disk	ea	180.00
1443	Emittance std., 1 1/8 in. disk	ea	180.00
1444	Emittance std., 1 1/4 in. disk	ea	180.00
1445	Emittance std., 2 in. x 2 in.	ea	180.00
1475	Polyethylene, linear	50 g	100.00
1476	Polyethylene, branched	50 g	75.00
1511	Cyclohexane - dielectric	400 ml	125.00
1512	1,2 Dichloroethane dielectric constant	400 ml	120.00
1513	Nitrobenzene	400 ml	120.00
1516	Permittivity Std., 38 mm x 2.5 mm	ea	193.00
1517	Permittivity Std., 38 mm x 5 mm	ea	193.00
1518	Permittivity Std., 51 mm x 2.5 mm	ea	193.00
1519	Permittivity Std., 51 mm x 5 mm	ea	193.00
1541	Mossbauer, iron foil	ea	150.00
1571	Botanical, orchard leaves, trace element	75 g	68.00
1591	Organic, 1,2-0-Isopropylidene-β-L-idofuranose	15 mg	35.00
1592	Organic, 2,3-0-Isopropylidene-β-D-threo-pentulose	50 mg	35.00
1593	Organic, L-Inositol	250 mg	35.00
1594	Organic, Quebrachitol	500 mg	35.00
1601	Carbon dioxide in nitrogen, 308 ppm	cyl	150.00
1602	Carbon dioxide in nitrogen, 346 ppm	cyl	150.00
1603	Carbon dioxide in nitrogen, 384 ppm	cyl	150.00
1604a	Oxygen in nitrogen, 1.5 ppm	cyl	110.00
1605	Oxygen in nitrogen, 10 ppm	cyl	110.00
1606	Oxygen in nitrogen, 112 ppm	cyl	110.00
1607	Oxygen in nitrogen, 211 ppm	cyl	110.00
1608	Oxygen in nitrogen, 978 ppm	cyl	110.00
1609	Oxygen in nitrogen, 20.98 mole percent	cyl	110.00
1610	Hydrocarbon in air, 0.103 mole percent	cyl	174.00
1611	Hydrocarbon in air, 0.0107 mole percent	cyl	174.00
1612	Hydrocarbon in air, 0.00117 mole percent	cyl	174.00
1613	Hydrocarbon in air, 0.000102 mole percent	cyl	174.00
1621	Sulfur in residual fuel oil, 1.05 wt percent	100 ml	30.00
1622	Sulfur in residual fuel oil, 2.14 wt percent	100 ml	30.00
1623	Sulfur in residual fuel oil, 0.268 wt percent	100 ml	30.00
1624	Sulfur in distillate fuel oil, 0.211 wt percent	100 ml	30.00
1625	Sulfur dioxide permeation tube 10 cm	ea	50.00
1626	Sulfur dioxide permeation tube 5 cm	ea	50.00

SRM	Type	Unit	Price
1627	Sulfur dioxide permeation tube 2 cm	ea	$ 50.00
1651	Zirconium-barium chromate heat source powder (ca 350 cal/g)	50 g	55.00
1652	Zirconium-barium chromate heat source powder (ca 390 cal/g)	50 g	55.00
1653	Zirconium-barium chromate heat source powder (ca 425 cal/g)	50 g	55.00
1654	α-Quartz for hydrofluoric acid solution calorimetry	25 g	175.00
1800	Microstandard ion-exchange beads	slide	130.00
2001	Aluminum on glass, specular spectral reflectance	ea	275.00
2002	Aluminum on glass, specular spectral reflectance	ea	275.00
2003	Aluminum on glass, specular spectral reflectance	ea	275.00
2004	Aluminum on glass, specular spectral reflectance	ea	275.00
2005	Gold on glass, specular spectral reflectance	ea	275.00
2006	Gold on glass, specular spectral reflectance	ea	275.00
2007	Gold on glass, specular spectral reflectance	ea	275.00
2008	Gold on glass, specular spectral reflectance	ea	275.00
2101-5	Color std.	set	255.00
2106	ISCC-NBS color charts	set	5.00
2141	Urea	2 g	33.00
2142	o-Bromobenzoic acid	2 g	33.00
2175	Organic, Ethane-d_6	5 cm^3	320.00
2176	Organic, Propane-1,1,1-d_3	5 cm^3	1,155.00
2186-I	Potassium dihydrogen phosphate	30 g	41.00
2186-II	Disodium hydrogen phosphate	30 g	41.00
2191	Sodium bicarbonate	30 g	41.00
2192	Sodium carbonate	30 g	41.00
2201	Sodium chloride	125 g	34.00
2202	Potassium chloride	160 g	34.00
2301	Gold coating thickness on epoxy	ea	66.00
2302	Gold coating thickness on epoxy	ea	66.00
2303	Gold coating thickness on epoxy	ea	66.00
2304	Gold coating thickness on epoxy	ea	66.00
2305	Gold coating thickness on epoxy	set (2)	109.00
2306	Gold coating thickness on epoxy	set (2)	109.00
2307	Gold coating thickness on epoxy	set (2)	109.00
2308	Gold coating thickness on epoxy	set (4)	182.00
2311	Gold coating thickness on copper	ea	66.00
2312	Gold coating thickness on copper	ea	66.00
2313	Gold coating thickness on copper	ea	66.00
2314	Gold coating thickness on copper	ea	66.00
2315	Gold coating thickness on copper	set (2)	109.00
2316	Gold coating thickness on copper	set (2)	109.00
2317	Gold coating thickness on copper	set (2)	109.00
2318	Gold coating thickness on copper	set (4)	182.00
2331	Tin coating thickness	ea	66.00
2332	Tin coating thickness	ea	66.00
2333	Tin coating thickness	ea	66.00
2334	Tin coating thickness	ea	66.00
2335	Tin coating thickness	ea	66.00
2336	Tin coating thickness	ea	66.00
2338	Tin coating thickness	set (2)	109.00
2339	Tin coating thickness	set (4)	182.00
2340	Tin coating thickness	set (6)	261.00
3200	Tape, magnetic, secondary std.	ea	695.00
4200-B	Cesium-137, gamma-ray source	ea	60.00
4201-B	Niobium-94, gamma-ray source	ea	151.50
4202	Cadmium-109, gamma-ray source	ea	93.00
4203-A	Cobalt-60, gamma-ray source	ea	70.00
4203-B	Cobalt-60, gamma-ray source	ea	70.00
4205	Thorium-228, gamma-ray source	ea	98.00
4206	Thorium-228, gamma-ray source	ea	98.00
4207	Cesium-137, gamma-ray source	ea	60.00
4209	Yttrium-88, gamma-ray source	ea	77.00
4210	Cobalt-60, gamma-ray source	ea	86.00
4211	Americium-241, gamma-ray source	ea	127.50
4213	Americium-241, gamma-ray source	ea	127.50
4222	Carbon-14(n-hexadecane) soln std.	3 g	55.00
4223	Carbon-14(n-hexadecane) soln std.	3 g	55.00
4224	Carbon-14(n-hexadecane) soln std.	3 g	55.00
4226	Nickel-63, soln std.	4 g	148.50
4228	Selenium-75, soln std.	4.6 g	118.00
4235	Krypton-85, gamma-ray gas std.	ea	100.00
4904-D	Americium-241, alpha-particle source	ea	124.00
4906	Plutonium-238, alpha-particle source	ea	158.00

SRM	Type	Unit	Price
4921-C	Sodium-22, soln std.	3 g	42.00
4922-E	Sodium-22, soln std.	5 g	61.00
4925	Carbon-14 (benzoic acid in toluene)	3 g	48.00
4926	Hydrogen-3 (water)	25 g	48.00
4927	Hydrogen-3 (water)	3 g	48.00
4929-C	Iron-55, soln std.	4 g	115.00
4935-C	Krypton-85, beta-particle gas std.	10 ml	100.00
4940-B	Promethium-147, soln std.	3 g	60.00
4941-C	Cobalt-57, soln std.	5 g	108.00
4943	Chlorine-36, soln std.	3 g	43.00
4947	Hydrogen-3 (tritiated toluene)	4 g	46.00
4948	Cerium-Praseodymium-144, soln std.	3.3 g	70.00
4950-B	Radium solution std., 10^{-9} g (Rd analysis)	20 g	81.00
4951	Radium solution std., 10^{-11} g (Rd analysis)	100 g	48.00
4952-A	Radium blank solution (Rd analysis)	100 g	30.00
4953	Radium, 10^{-8} g (Rd analysis)	20 g	81.00
4955	Radium solution std., 0.1 μg Ra	5 g	63.00
4956	Radium solution std., 0.2 μg Ra	5 g	63.00
4957	Radium solution std., 0.5 μg Ra	5 g	63.00
4958	Radium solution std., 1 μg Ra	5 g	63.00
4959	Radium solution std., 2 μg Ra	5 g	63.00
4960	Radium solution std., 5 μg Ra	5 g	63.00
4961	Radium solution std., 10 μg Ra	5 g	63.00
4962	Radium solution std., 20 μg Ra	5 g	63.00
4963	Radium solution std., 50 μg Ra	5 g	63.00
4964-B	Radium solution std., 102 μg Ra	5 g	63.00
4990-B	Carbon-14, contemporary std. for dating	1 lb	26.50
4991-C	Sodium-22, gamma-ray source	ea	79.00
4996-B	Sodium-22, gamma-ray source	ea	79.00
4998-E	Yttrium-88, gamma-ray source	ea	77.00
U-0002	Uranium oxide - depleted (U-235)	1 g	58.50
U-005	Uranium oxide - depleted (U-235)	1 g	48.50
U-010	Uranium oxide - enriched (U-235)	1 g	48.50
U-015	Uranium oxide - enriched (U-235)	1 g	48.50
U-020	Uranium oxide - enriched (U-235)	1 g	49.00
U-030	Uranium oxide - enriched (U-235)	1 g	49.00
U-050	Uranium oxide - enriched (U-235)	1 g	49.00
U-100	Uranium oxide - enriched (U-235)	1 g	50.00
U-150	Uranium oxide - enriched (U-235)	1 g	51.00
U-200	Uranium oxide - enriched (U-235)	1 g	51.50
U-350	Uranium oxide - enriched (U-235)	1 g	54.50
U-500	Uranium oxide - enriched (U-235)	1 g	56.00
U-750	Uranium oxide - enriched (U-235)	1 g	61.50
U-800	Uranium oxide - enriched (U-235)	1 g	62.00
U-850	Uranium oxide - enriched (U-235)	1 g	63.00
U-900	Uranium oxide - enriched (U-235)	1 g	64.00
U-930	Uranium oxide - enriched (U-235)	1 g	65.50
U-970	Uranium oxide - enriched (U-235)	1 g	68.50

B. RESEARCH MATERIALS

RM	Type	Unit	Price
RM-1C	Ultra-purity aluminum, single crystal cube	ea	$90.00
RM-1R	Ultra-purity aluminum, polycrystaline rod	ea	50.00

C. GENERAL MATERIALS

GM	Type	Unit	Price
GM-1	Hydrogen in steel	set	$86.00
GM-2	Hydrogen in steel	set	86.00
GM-2007	Clay, Attapulgus	18 kg	143.00

STANDARD REFERENCE MATERIALS
NEW – RENEWALS

Category 3.1. Steels (Chip Form)

SRM 20g — Steel, AISI 1045 in chip form has been issued with a Certificate of Analysis. The composition is: C 0.462, Mn 0.665, P 0.012, S 0.028, Si 0.305, Cu 0.034, Ni 0.034, Cr 0.036, V 0.002, Mo 0.008, and Al 0.040. This material costs $33.00 per 150 g unit.

SRM 121d — Steel, stainless, Cr17-Ni11-Ti0.3, AISI 321, in chip form has been issued with a Certificate of Analysis. The nominal composition is: C 0.07, Mn 1.8, P 0.02, S 0.01, Si 0.5, Cu 0.1, Ni 11.2, Cr 17.4, Mo 0.2, Ti 0.3, and Co 0.1. This material is also available in disk form as SRM 1171, see Category 3.2. SRM 121d costs $33.00 per 150 g unit.

SRM 123c — Steel, stainless, Cr17-Ni11-Nb0.7, AISI 348, in chip form has been issued with a Certificate of Analysis. The nominal composition is: C 0.05, Mn 1.7, P 0.01, S 0.01, Si 0.6, Cu 0.1, Ni 11.4, Cr 17.4, V 0.03, Mo 0.2, Nb 0.7, Ta 0.001, and Co 0.1. This material is also available in disk form as SRM 1172, see Category 3.2. SRM 123c costs $33.00 per 150 g unit.

SRM 125b — High Silicon Steel in chip form has been issued with a Certificate of Analysis. The nominal composition is: C 0.028, Mn 0.278, P 0.029, S 0.008, Si 2.89, Cu 0.071, Ni 0.038, Cr 0.019, Mo 0.008, Sn 0.003 and Al 0.329. This material is priced at $33.00 per 150 g unit. A high silicon steel of similar composition is also issued in solid disk form as SRM 1134 in Category 3.2.

SRM 166c — Low Carbon Stainless Steel (AISI 316L) in powder form has been issued with a Certificate of Analysis for carbon. The nominal value is 0.0078%. The material is available in 100 gram units priced at $25.00.

SRM 361 - 366 — Low alloy steel and electrolytic iron standards in chip form for chemical analysis--companion SRM's to the "1200 series" (See Category 3.2)--have been issued with Provisional Certificates of Analysis. These SRM's are sold as follows:

SRM	Type	Unit	Price
361	Steel, AISI 4340	150 g	$33.00
362	Steel, AISI 94B17 (modified)	150 g	33.00
363	Steel, Cr-V (modified)	150 g	33.00
364	Steel, High Carbon (modified)	150 g	33.00
365	Iron, Electrolytic	150 g	33.00
366	Set of one each 361, 362, 363, 364, and 365	set	100.00

SRM 661 - 668

Low alloy steel and electrolytic iron standards in solid form for microchemical methods of analysis such as electron probe, laser probe, and spark source mass spectrometry--from the same melts as the "1200 Series" (See below)--have been issued with Provisional Certificates of Analysis. These SRM's are issued in sets consisting of either two or five rods, which are 3.2 mm in diameter and 51 mm long. SRM 664 is available as a single SRM.

SRM	Type	Unit	Price
661	Steel, AISI 4340		
662	Steel, AISI 94B17 (modified)		
663	Steel, Cr-V (modified)		
664	Steel, High Carbon (modified)	ea	$25.00
665	Iron, Electrolytic		
666	Set of 2 rods: 661 and 665	sets	40.00
667	Set of 2 rods: 662 and 663	sets	40.00
668	Set of 5 rods: 661, 662, 663, 664, and 665	sets	75.00

SRM 1095

Steel, AISI 4340 in solid form for determination of oxygen in metal by vacuum or inert gas fusion and neutron activation methods of analysis--from the same melt as 1261 (See below)--has been issued with a Certificate of Analysis for oxygen at 9 ppm. This SRM is a rod 6.4 mm in diameter and 102 mm long, and costs $33.00 per unit.

SRM 1096

Steel, AISI 94B17 (modified) in solid form for the determination of oxygen and nitrogen in metal by vacuum or inert gas fusion and neutron activation methods of analysis--from the same melt as 1262 (see below)--has been issued with a Certificate of Analysis. The values for oxygen and nitrogen are 10 ppm and 40 ppm, respectively. This SRM is a rod 6.4 mm in diameter and 102 mm long, and costs $33.00 each.

SRM 1099

Electrolytic Iron in solid form for the determination of oxygen in metals by vacuum or inert gas fusion and neutron activation methods of analysis--from the same melt as 1265 (See below)--has been issued with a Provisional Certificate of Analysis for oxygen at 61 ppm. This SRM is a rod 6.4 mm in diameter and 102 mm long, and costs $33.00 per unit.

SRM 1134

High Silicon Steel in solid form has been issued with a Certificate of Analysis. The nominal composition is: C 0.026, Mn 0.277, P 0.028, S 0.009, Si 2.89, Cu 0.070, Ni 0.038, Cr 0.019, Mo 0.008, Sn 0.003 and Al 0.329. This material is issued in the form of a disc 1 1/4 inch (31.8 mm) in diameter and 3/4 inch (19.1 mm) thick, priced at $50.00 each. A similar material is available in chip form as SRM 125b in Category 3.1.

SRM 1171

Steel, stainless, Cr17-Ni11-Ti0.3, AISI 321, in disk form, 31 mm in diameter and 19 mm thick, has been issued with a Certificate of Analysis. The nominal composition is: C 0.07, Mn 1.8, P 0.02, Si 0.5, Cu 0.1, Ni 11.2, Cr 17.4, Mo 0.2, Ti 0.3, and Co 0.1. This material is also available in chip form as SRM 121d, see Category 3.1. SRM 1171 costs $50.00 ea.

SRM 1172

Steel, stainless, Cr17-Ni11-Nb0.7, AISI 348, in disk form, 31 mm in diameter and 19 mm thick, has been issued with a Certificate of Analysis. The nominal composition is: C 0.05, Mn 1.7, P 0.01, S 0.01, Si 0.6, Cu 0.1, Ni 11.4, Cr 17.4, V 0.03, Mo 0.2, Nb 0.7, Ta 0.001, and Co 0.1. This material is also available in chip form as SRM 123c. SRM 1172 costs $50.00 ea.

SRM 1206 - 1209

Five SRM's for three important high-temperature alloys have been made available with a Provisional Certificate of Analysis (obtainable on request). One is for high-temperature alloy Rene 41 (1206-2), while two each are for the high-temperature alloys Waspaloy (1207-1 and 1207-2) and Inco 718 (1208-1 and 1208-2). Issued in the form of solid sections, approximately 31 mm square and 19 mm thick, the standards are designed primarily for application in x-ray spectrometric methods of analysis. However, they also may be used in optical emission spectrometric methods of analysis. These SRM's cost $50.00 per unit, or may be purchased as a complete set (as SRM 1209) for $185.00 per set.

SRM 1261 - 1266

Low alloy steel and electrolytic iron--the "1200 Series" (replacements for the 1100 series)--have been issued with Provisional Certificates of Analysis (obtainable on request) for use in optical emission and x-ray spectrometric analysis. These SRM's are disks 31 mm in diameter and 19 mm thick. The initial certification is made for some 10 to 15 elements; however, chemical information is provided for the remaining 40 elements. They are sold as follows:

SRM	Type	Unit	Price
1261	Steel, AISI 4340	ea	$45.00
1262	Steel, AISI 94B17 (modified)	ea	45.00
1263	Steel, Cr-V (modified)	ea	45.00
1264	Steel, High Carbon (modified)	ea	45.00
1265	Iron, Electrolytic	ea	45.00
1266	Set of one each 1261, 1262, 1263, 1264, and 1265	set	175.00

Category 3.6. Nonferrous Alloys (Chip Form)

SRM 53e

Lead base bearing metal in powder form has been issued with a Certificate of Analysis. The nominal composition is: (Pb 84, not certified), Sb 10.26, Sn 5.84, Cu 0.054, Bi 0.052, As 0.057 and Ni 0.003. This material is the same as SRM 1132 which is issued in the solid form in Category 3.7. and is priced at $33.00 per 150 g unit.

Category 3.7. Nonferrous Alloys (Solid Form)

SRM 654a

Titanium Alloy, 6Al-4V has been issued with a Certificate of Analysis. The material is in the form of a disk 31 mm (1 1/4 in) in diameter and 6.4 mm (1/4 in) thick with a nominal composition of: Al 6.3 and V 3.9 (values for Fe, Cr, Mn, and Mo are not certified, but are given for information only). This material costs $35.00 each.

SRM 1132

Lead base bearing metal in solid form has been issued with a Certificate of Analysis. The material is in the form of a disc 1 1/4 inch (31.8 mm) in diameter and 3/4 inch (19.0 mm) thick with a nominal composition of (Pb 84, not certified), Sb 10.26, Sn 5.84, Cu 0.054, Bi 0.052, As 0.057 and Ni 0.003. This material is the same as SRM 53e which is issued in a powder form and is listed in Category 3.6. SRM 1132 is priced at $50.00 each.

Category 3.8. Miscellaneous Metals

SRM 483

Iron--3% Silicon Alloy Microprobe Standard has been issued with a Certificate of Analysis. The material is 3 mm by 3 mm by 0.28 mm with a nominal composition of: Silicon 3.2 wt. percent and Iron (by difference) 96.8 wt. percent. This material costs $50.00 each.

Category 3.41. Primary, Working, and Secondary Standard Chemicals

SRM 136c — Potassium Dichromate has been issued with a Provisional Certificate of Analysis. This is a primary chemical standard certified for purity based on effective oxidizing power, nominally 99.98%. It is sold in 60 gram units priced at $26.00.

SRM 723 — *tris* (Hydroxymethyl)aminomethane–2-amino-2-hydroxymethyl-1, 3-propanediol--is the first basimetric SRM issued by NBS. The basimetric value certified is 99.9690 ± 0.0030 weight percent. The uncertainty represents the 95 percent confidence interval of the mean for 30 determinations. The corresponding standard deviation of a single measurement is 0.0081 units. SRM 723 costs $50.75 per 50 g unit.

Category 3.42. Microanalysis Standards

SRM 2141 — Urea is a compound with a relatively high nitrogen content, 46.65 percent, issued to supplement the other micronitrogen SRM's–acetanilide (SRM 141b), which contains an open-chain nitrogen atom, and nicotinic acid (SRM 148), which contains a heterocyclic nitrogen atom. Both 141b and 148 have relatively low nitrogen contents of 10.36 and 11.38 percent, respectively. SRM 2141 costs $33.00 per 2 g unit.

SRM 2142 — o-Bromobenzoic acid is certified only for the weight percentage of bromine, but has been characterized for identity and purity by several organic and physical chemistry techniques. SRM 2142 is the first in a planned series of SRM's certified for halogens that are to be issued to augment the existing microchemical SRM's. SRM 2142 costs $33.00 per 2 g unit.

Category 3.43. Clinical Laboratory Standards

SRM 916 — Bilirubin has been issued with a Provisional Certificate of Analysis as a chemical of known purity for use as an analytical standard in clinical chemistry. The provisionally certified purity for bilirubin is 99.0 percent. This material costs $92.00 per 100 mg unit.

SRM 917 — *D*-glucose is certified for use as an analytical standard in clinical chemistry. The certified purity is 99.9 ± 0.1 percent and the relative amounts of α- and β-*D*glucopyranose are given. SRM 917 costs $43.00 per 25 g unit.

SRM 918 — Potassium Chloride has been issued with a Certificate of Analysis as a chemical of known purity for use as an analytical standard for clinical chemistry. The certified purity is 99.9 percent. This material costs $40.00 per 30 g unit.

SRM 922 - 923 — Tris(hydroxymethyl)aminomethane and Tris(hydroxymethyl)aminomethane hydrochloride have been issued with a Provisional Certificate of Analysis for use as a pH standard for clinical chemistry. The Certificate provides directions for preparing a solution of known pH value from the two SRM's, and provides a range of pH values as a function of solution temperature. SRM 922 costs $40.00 per 125 g unit; SRM 923 costs $40.00 per 160 g unit.

SRM 930 — Glass Filters for Spectrophotometers have been issued with a Certificate. This SRM consists of three glass filters having transmittances of approximately 10, 20, and 30 percent. Each filter is individually calibrated and certified for absorbance and transmittance over a spectral wavelength range from 440 to 635 nanometers. These filters are intended to check the accuracy of the photometric scale of spectrophotometers, and to provide a means of interlaboratory

comparisons of spectrophotometric data. It is probable that in the field of clinical chemistry a large amount of data are being obtained on precise instruments whose accuracy is unknown. To make these data more meaningful and universally applicable, the biases between instruments must be eliminated or at least determined. A major purpose of these filters will be to assure that systematic errors due to a particular characteristic or condition of an instrument can be recognized. This SRM costs $300.00 per set of three filters.

Category 3.44. Metallo-Organic Compounds

SRM 1061c — Magnesium cyclohexanebutyrate has been issued with a Provisional Certificate of Analysis. This SRM has a composition of 6.45 percent magnesium and costs $31.00 per 5 g unit.

SRM 1079b — Tris(1-phenyl-1,3-butanediono)iron (III) has been issued with a Certificate of Analysis. It has a nominal composition of 10.45% iron and is priced at $31.00 per 5 gram unit.

Category 3.46. Botanical Standards

SRM 1571 — Orchard Leaves has been issued with a Provisional Certificate of Analysis. This SRM is the first of a series of botanical standards to be certified for chemical elements. This material is certified for the following elements: Ca, K, Fe, Na, Cu and Ni. The content of the following elements is given for information only: Hg, Pb, N, Mg, P, As, Bi, B, Cr, Co, F, Mn, Se, U, and Zn. This SRM costs $68.00 per 75 g unit.

Category 3.51. Analyzed Gases

SRM 1604a — Oxygen in Nitrogen has been issued with a Certificate of Analysis. The nominal concentration of oxygen in nitrogen is 1.5 ppm. This SRM is sold in cylinders containing 68 liters at STP for $110.00 per cylinder.

SRM 1610 - 1613 — Certified Gas Standards (Hydrocarbon in Air) have been issued with a Certificate of Analysis. The nominal hydrocarbon concentration calculated as methane is:

1610	0.103 mole percent	1612	.00117 mole percent
1611	.0107 mole percent	1613	.000102 mole percent

These SRM's are sold in cylinders containing 68 liters at STP, for $174.00 per cylinder.

SRM 1625 1626 1627 — Sulfur Dioxide Permeation Tubes are intended for calibrating air pollution monitoring apparatus, and may be used also for the verification of air pollution analytical methods and procedures. SRM's 1625, 1626, and 1627 have effective lengths of 10, 5, and 2 cm, respectively. The permeation rate per cm of length is approximately 0.28μg of SiO_2 per minute at 25 °C. Each tube is individually calibrated and its permeation rate is certified to one percent (relative) over the temperature range of 20 to 30 °C. These SRM's cost $50.00 per unit.

Category 3.52. Analyzed Liquids

SRM 1623 — Sulfur in Residual Fuel Oil has been issued with a Provisional Certificate of Analysis. The certified value for the sulfur content is 0.268 wt. percent. This material costs $30.00 per 100 ml unit.

SRM 1624 — Sulfur in Distillate Fuel Oil has been issued with a Provisional Certificate of Analysis. The certified value for the sulfur content is 0.211 wt. percent. This material costs $30.00 per 100 ml unit.

Category 3.54. Ores

SRM 180 — High Grade Fluorspar has been issued with a Certificate of Analysis. The certified value of CaF_2 is 98.8 wt. percent. This material has been issued for use by the geological and geochemical scientific community. (NOTE: This SRM is not a replacement for the fluorspar standard, SRM 79, used primarily for the assay of fluorspar imported for industrial use.) SRM 180 costs $40.00 per 120 g units.

Category 3.56. Minerals, Refractories, Carbides, and Glasses

SRM 610 - 619 — Trace Elements in Glass standards have been issued. These materials consist of a Soda lime glass, doped with some 61 elements at 0.02 ppm, 1 ppm, 50 ppm and 500 ppm level. All of these materials are in the form of wafers and are homogeneous when used as integral samples. They are sold as follows:

SRM	Concentration	wafer thickness	No. of wafers	Cost
610	500 ppm	3 mm	6	$ 50.00
611	500	1	6	50.00
612	50	3	6	50.00
613	50	1	6	50.00
614	1	3	6	50.00
615	1	1	6	50.00
616	.02	3	6	50.00
617	.02	1	6	50.00
618	set	3	24	150.00
619	set	1	24	150.00

Category 3.61. Nuclear Materials

SRM 945 — Plutonium Metal Standard Matrix Material has been issued with a Certificate of Analysis. This material has been issued as a matrix material for the preparation of spectroscopy standards. The material costs $500.00 per 5 g units.*

SRM 949c — Plutonium Metal has been issued. This material is intended as a chemical assay standard for Plutonium. It is priced at $123.00 per 0.5 gram unit.*

SRM U-0002 — Uranium oxide–depleted (U-235) has been issued with a Provisional Certificate of Analysis. It is a uranium isotopic standard consisting of highly purified U_3O_8, and has a U-238 content of 99.9825 and U-235 content of 0.01733 by weight percent. It is intended for the calibration of mass spectrometers and costs $58.50 per 1 g unit.*

SRM U-970 — Uranium oxide--enriched (U-235) has been issued with a Provisional Certificate of Analysis. It is a uranium isotopic standard consisting of highly purified U_3O_8, and has a U-238 content of 0.5296 and a U-235 content of 97.663 by weight percent. It is intended for the calibration of mass spectrometers and costs $68.50 per 1 g unit.*

*These materials are available only to Atomic Energy Commission contractors and licensees. Order forms and further information may be obtained from the Office of Standard Reference Materials, National Bureau of Standards, Washington, D.C. 20234.

Category 3.62. Isotopic Reference Standards

SRM 984 — Rubidium Chloride has been issued with a Certificate of Analysis. It is intended as both an assay standard and as an isotopic reference standard. As an assay standard it has a value for RbCl of 99.9 weight percent; and as an isotopic reference is certified for rubidium with an absolute abundance ratio of $^{85}Rb/^{87}Rb$ of 2.593. This SRM costs $43.00 per 1 g unit.

Category 3.66. Ion Activity Standards

SRM 186IIc — Disodium hydrogen phosphate has been issued with a Certificate. It is intended as pH standard for use in an admixture only with SRM 186Ic. It costs $30.00 per 30 g unit.

SRM 187b — Borax has been issued with a Certificate. It is intended as a pH standard with a pH(s) value of 9.183 at 25 °C. It costs $30.00 per 30 g unit.

SRM 2201 - 2202 — Sodium Chloride and Potassium Chloride have been certified as ion-selective electrode standard reference materials. These SRM's are the first of a series of materials to be certified for conventional single ionic-activities based on the Stokes-Robinson hydratic theory, which is applicable to ionic strengths greater than 0.1 mole per liter. By means of these SRM's researchers can now standardize their instruments on a common, conventional ionic-activity scale. SRM 2201 costs $34.00 per 125 g unit; SRM 2202 costs $34.00 per 160 g unit.

Category 4.1. Coating Thickness Standards

SRM 2301 - 2308 — Gold Coating Thickness Standards (copper clad glass epoxy laminate) have been issued and are certified for weight per unit area (thickness). They are available singly priced at $66.00, in sets of two at $109.00 and in sets of four at $182.00.

SRM Nos.	Nominal Coating Wt. (Mg/cm^2)	Nominal Thickness (micro inches)
2301	1.5	30
2302	3.0	60
2303	6.0	120
2304	14.0	280
2305	1.5 and 3.0	
2306	3.0 and 6.0	
2307	6.0 and 14.0	
2308	1.5, 3.0, 6.0 and 14.0	

SRM 2311 - 2318 — Gold Coating Thickness Standards (on copper) have been issued and are Certified for weight per unit area (thickness). They are available singly priced at $66.00, in sets of two at $109.00 and in sets of four at $182.00.

SRM Nos.	Nominal Coating Wt. (mg/cm^2)	Nominal Thickness (micro inches)
2311	1.5	30
2312	3.0	60
2313	6.0	120
2314	14.0	280
2315	1.5 and 3.0	
2316	3.0 and 6.0	
2317	6.0 and 14.0	
2318	1.5, 3.0, 6.0 and 14.0	

SRM 2331 - 2336
SRM 2338 - 2340

Tin Coating Thickness Standards (on steel) have been issued and are certified for weight per unit area (thickness). They are available singly priced at $66.00. SRM 2338 (one each of 2332, 2335) is available at $109.00; SRM 2339 (one each of 2331, 2333, 2334, 2336) is available at $182.00; and SRM 2340 (one each of 2331, 2332, 2333, 2334, 2335, 2336) is available at $261.00.

SRM No.	Nominal Coating Weight (mg/cm^2)	Nominal Thickness (microinches)
2331	1.1	60
2332	2.0	110
2333	3.0	160
2334	5.0	275
2335	12	650
2336	14	750

Category 4.5. Molecular Weight Standards

SRM 1475

Linear Polyethylene (Whole Polymer) has been issued with a Certificate for molecular weight, limiting viscosity number, melt-flow rate and density. This material is sold in pellet form, priced at $100.00 per 50 gram unit.

SRM 1476

Branched Polyethylene (Whole Polymer) has been issued with a Certificate for limiting viscosity number and melt-flow rate. The material is sold in pellet form, priced at $75.00 per 50 gram unit.

Category 4.21. Freezing and Melting Point Standards

SRM 742

Aluminum Oxide has been issued with a Certificate as a pyrometric standard with a melting point on the International Practical Temperature Scale (1968) of 2053°C. This SRM costs $62.50 per 10 g unit.

Category 4.22. Calorimetric Standards

SRM 720

Synthetic Sapphire (Al_2O_3) has been issued as a standard reference material for calorimetry. The enthalpy and heat capacity of 99.95 + percent α-alumina are certified over a temperature range from 273.15 K to 2250 K. SRM 720 costs $56.00 per 15 g unit.

SRM 755

Quartz (SiO_2) powder, prepared from natural quartz, has been Provisionally Certified and issued as a standard reference material for use in thermal analysis. It has a phase transition at approximately 575°C and is sold as a powder (100-325 mesh), priced at $35.00 per 2 gram unit.

SRM 756

Potassium Nitrate has been Provisionally Certified and issued as a standard reference material for use in thermal analysis. It has a phase transition at approximately 130 °C and is sold as a powder priced at $35.00 per 5 gram unit.

SRM 1654

α-Quartz for Hydrofluoric Acid Solution Calorimetry has been issued with a Certificate. The certified value for the enthalpy of solution is: ΔH_{SOLN} (353.15K) in HF (aq, 24.4 wt %) = -2362.2±1.1 $J \cdot g^{-1}$. This SRM costs $175.00 per 25 g unit.

Category 4.23. Vapor Pressure Standards

SRM 746

Cadmium vapor pressure standard has been issued with a Certificate of Analysis. Vapor pressure values for cadmium, 99.999 + percent pure, are given for the temperature range of 350 to 594 K. This SRM costs $65.00 per unit.

SRM 748 — Silver vapor pressure standard has been issued with a Certificate of Analysis. Vapor pressure values for silver, 99.999 + percent pure, are given for the temperature range of 800 to 1600 K. This SRM costs $75.00 per unit.

Category 4.24. Thermal Expansion Standards

SRM 736 — Copper thermal expansion standard has been issued with a Certificate of Analysis for thermal expansion ($\Delta L/L$) as a function of temperature in the range 20-800K. This material is the first of a series covering the temperature range of 20 to 1900K. It is available as a 1/4 inch (6.4 mm) diameter rod in 2, 4, or 6 inch (51, 102 or 152 mm) lengths. Designated as 736-L1, 736-L2 and 736-L3, respectively, they cost $71.00, $119.00 and $167.00.

SRM 739 — Fused Silica thermal expansion standard has been issued with a Certificate of Analysis for thermal expansion ($\Delta L/L$) as a function of temperature in the range 80 to 1000 K. This material is available as a 6.4 mm diameter rod in 51, 102, and 152 mm lengths. Designated 739-L1, 739-L2, and 739-L3, respectively, they cost $71.00, $119.00, and $167.00.

Category 4.25. Thermal Conductivity Standards

SRM 734 — Electrolytic Iron has been issued with a Certificate for thermal conductivity (λ) as a function of temperature in the range 6 to 280 K. This material is the first of a series of thermal conductivity SRM's to be issued. The material is available in three sizes: 734-S is a rod 6.4 mm in diameter and 305 mm long, and costs $75.00. 734-L1 is a rod 31.8 mm in diameter and 152 mm long, and costs $85.00. 734-L2 is a rod 31.8 mm in diameter and 305 mm long, and costs $150.00.

Category 4.45. Reflectance Standards

SRM 2001 - 2004 — Aluminum on Glass have been issued with a Certificate for Specular Spectral Reflectance. Each mirror is certified for near-normal (5°) specular reflectance at wavelengths ranging from 0.2537 to 30 micrometers and corresponding resolved bandwidths from 1.0 to 1800 nanometers. These SRM's cost $275.00 ea.

SRM No.	Size of blank (cm)	Coated Area (cm)
2001	7.6 X 10.2 X 1.6	5.1 X 7.6
2002	3.8 X 3.8 X 1.3	2.5 X 2.5
2003	disk: 2.9 diameter X 1.0 thick	entire surface
2004	disk: 2.4 diameter X 0.6 thick	entire surface

SRM 2005 - 2008 — Gold on Glass have been issued with a Certificate for Specular Spectral Reflectance. Each mirror is certified for near-normal (5°) specular reflectance at wavelengths ranging from 0.2537 to 30 micrometers and corresponding resolved bandwidths from 1.0 to 1800 nanometers. These SRM's cost $275.00 ea.

SRM No.	Size of blank (cm)	Coated Area (cm)
2005	7.6 X 10.2 X 1.6	5.1 X 7.6
2006	3.8 X 3.8 X 1.3	2.5 X 2.5
2007	disk: 2.9 diameter X 1.0 thick	entire surface
2008	disk: 2.4 diameter X 0.6 thick	entire surface

Category 4.51. Radioactivity Standards

SRM 4201-B, 4211, 4213 — Gamma-Ray Point-Sources - have been issued with Certificates. The material is deposited between two layers of polyester tape and mounted on an aluminum annuli 0.8 cm wide with an outside diameter of 5.5 cm. The material, approximate activity and price are listed below:

SRM	Material	Activity	Price
4201-B	Niobium 94	5×10^3 ntps	$151.60
4211	Americium 241	1 to 6×10^4	127.50
*4213	Americium 241	7 to 20×10^4	127.50

SRM 4228 — Selenium-75 has been issued with a Certificate. The activity is 2.54×10^5 (3/71) nuclear transformations per second (ntps) per gram of solution. The material is issued in a flame sealed glass ampoule containing approximately 4.6 grams of solution and is priced at $118.00. *

*This sample can be issued only to those persons who hold specific Byproduct Material License from the AEC. Please attach copy of current license to purchase order.

SRM 4929-C — Iron-55 has been issued with a Certificate. The activity is 7.8×10^4 (4/70) nuclear transformations per second (ntps) per gram of solution. The material is issued in a flame sealed glass ampoule containing approximately 3.9 grams of solution and is priced at $115.00.

SRM 4904D — Americium-241 Alpha activity standard has been issued with a Certificate. The standard consists of Americium-241, electroplated onto a 0.010 centimeter thick platinum foil, 1.6 cm in diameter, which is cemented to a monel disk, 2.5 cm in diameter, and 0.16 cm thick. The nominal activity level of this material is 2×10^3 to 5×10^4 nuclear transformations per second (ntps) (2/70) and is priced at $124.00 per standard.

Category 4.61. Metallurgical Standards

SRM 485 — Austenite in Ferrite primarily for use in calibrating x-ray diffraction equipment, is available in disk form, 21 mm in diameter and 2.5 mm thick. This SRM contains four percent austenite, nominally. The actual certified amount is given on each disk (to the nearest 0.1 percent), and is considered accurate to ±0.2 percent. SRM 485 costs $85.00 per disk.

SRM 493 — Spheroidized Iron Carbide (Fe_3C) in Ferrite primarily used in calibrating x-ray diffraction equipment, is in wafer form, 29 mm square and 2.5 mm thick. The Certificate states that the probability is about 95 percent that the average iron carbide concentration in any wafer is 14.23 ± 0.30 percent by volume. SRM 493 costs $85.00 per wafer.

Category 4.86. Mossbauer Standards

SRM 1541 — Iron foil has been issued with a Certificate of Calibration for Mossbauer spectrometry. SRM 1541 costs $150.00 each.

Category 4.87. Permittivity Standards

SRM 1511, 1512, 1513 — Cyclohexane (1511), 1,2-Dichloroethane (1512), and Nitrobenzene (1513) have been issued with Certificates for Dielectric constant at 20, 25 and 30 °C. These materials are priced at $120.00 per one pint (0.47 liter) sample.

SRM 1516 - 1519

Permittivity standards have been issued with Certificates. These SRM's are for use in calibrating systems for measuring permittivity and related dielectric quantities. Each SRM is individually identified and certified. They cost $193.00 per unit. The sizes are:

1516, 38 mm in diameter and 2.5 mm thick;
1517, 38 mm in diameter and 5 mm thick;
1518, 51 mm in diameter and 2.5 mm thick;
1519, 51 mm in diameter and 5 mm thick;

Category 5.1. Standard Rubbers and Rubber Compounding Materials

SRM 373f

Benzothiazyl disulfide is now available as a rubber-compounding material. It is issued for use on testing rubber-compounding materials in connection with quality control of raw materials and for the standardization of rubber testing. This SRM costs $40.00 per 2 kg unit.

SRM 374c

Tetramethylthiuram Disulfide is now available as a rubber-compounding material. It is issued for use in testing rubber-compounding materials in connection with quality control of raw materials and for the standardization of rubber testing. This SRM costs $40.00 per 2 kg unit.

Category 6.0 Research Materials

A new class of materials is now being issued to meet the needs of scientists engaged in materials research. Designated Research Materials (RM's), these are in addition to and distinct from the Standard Reference Materials issued by NBS. The distinctions between Research Materials and Standard Reference Materials are in the information supplied with them and purpose for which they are used. Unlike SRM's the RM's are not issued with Certificates of Analysis; rather they are accompanied by a "Report of Investigation," the sole authority of which is the author of the report. A Research Material is intended primarily to further scientific or technical research on that particular material. One of the principal considerations in issuing an RM is to provide homogeneous material so that an investigator in one laboratory can be assured that the material he has is the same as that being investigated in a different laboratory.

RM-1C

Ultra-purity aluminum single crystal cubes (1 cm on a side) are intended for use in studies of a variety of solid state phenomena for which both extreme purity and knowledge of crystallographic orientation are required; e.g., in studies of electron spin resonance, De Haas-Van Alphen effect, cyclotron resonance, etc., and in a variety of studies relating to the Fermi surface and the transport properties of aluminum. RM-1C costs $90.00 per unit.

RM-1R

Ultra-purity aluminum polycrystalline rods (4.2 mm in diameter and 25.4 mm long) are intended for use in research on the mechanical and physical properties of extremely pure aluminum: for example, in the determination of resistivity as a function of strain at cryogenic temperatures to facilitate the design of cryogenic magnets or superconductor stabilizing elements. RM-1R costs $50.00 per unit.

Another new class of materials now being distributed by NBS to meet industry needs is General Materials (GM's). These materials have been standardized either by some Government agency other than NBS, or by some standards-making body such as the American Society for Testing and Materials (ASTM), the American National Standards Institute (ANSI), and the Organization for International Standardization (ISO). For this class of materials, NBS acts only as a distribution point and does not participate in the standardization of these materials.

GM-1 Hydrogen in Steel Standards are being distributed by NBS. These standards were produced and certified by The Welding Institute in Cambridge, England. GM-1 is a set of 15 cylinders, 5 each of H1, H2, and H3, containing nominally 0.05, 0.10, and 0.20 ml hydrogen, respectively. The cylinders are 6.35 mm in diameter and about 30 mm long, weighing approximately 6 grams. GM-1 costs $86.00 per set.

GM-2 Hydrogen in Steel Standards are being distributed by NBS. The standards were produced and certified by The Welding Institute in Cambridge, England. GM-2 is a set of 15 cylinders, 5 each of H4, H5, and H6, containing nominally 0.20, 0.60, and 1.10 ml hydrogen, respectively. The cylinders are 12.7 mm in diameter and about 30 mm long, weighing approximately 22 grams. GM-2 costs $86.00 per set.

GM-2007 Attapulgus clay is now being distributed by NBS upon request of the ASTM Committee D-2007. It is an adsorbant type clay, 30 to 60 mesh, having adsorptive characteristics as specified by ASTM D-2007. This GM costs $143.00 per 18 kg (40 lb) unit.

SECTION III

MATERIALS OUT OF STOCK

The materials listed below have gone out of stock since the latest catalog (7/70) was printed. Because funds and facilities are limited, materials that go out of stock are not always renewed; rather, renewals are based on current needs and available funds. If the material you need is not available, please contact the Office of Standard Reference Materials.

SRM Nos.	Type	Comments
28a	Iron Ore, Norrie	
121c	Steel, Cr18-Ni10(Ti bearing)(SAE 321)	Renewed with 121d
132a	Steel, Mo5-W6-Cr4-V2	To be renewed
186IIb	Disodium Hydrogen Phosphate	Renewed with 186IIc
187a	Borax	Renewed with 187b
373e	Benzothiazyl disulfide	Renewed with 373f
654	Ti Alloy, 6Al-4V(B)	Renewed with 654a
727	Rubidium Chloride	Replaced by 984
847	Steel, Cr 24-Ni 13	447 and D847 have the same composition
1061b	Magnesium Cyclohexanebutyrate	Renewed with 1061c
1079a	Tris(1-phenyl-1,3-butanediono)Iron III	Renewed with 1079b
C1100	Cartridge Brass A	
1163	Low Alloy Steel C	Replaced by 1200 series
1168	Low Alloy Steel H	Replaced by 1200 series
1170	Selenium Steel	
1174a	White Cast Iron (Special 1)	
1175a	White Cast Iron (Special 2)	
1194	A286 High Temperature Alloy	
1604	Oxygen in Nitrogen	Renewed with 1604a
4208	Mercury 203, Gamma Std.	
4225	Tin 113-Indium 113	
4924	Carbon 14 (water)	
4929B	Iron 55	Renewed with 4929C
4995C	Mercury 203, point source	
4997D	Manganese 54, point source	
4999D	Cerium 139, point source	

SECTION IV

CHANGES IN PURCHASE PROCEDURE

ORDERING

GENERAL

Orders should be addressed to the Office of Standard Reference Materials, National Bureau of Standards, Washington, D.C. 20234. Telephonic or telegraphic communications should be addressed to the attention of the Office of Standard Reference Materials (Telephone 301-921-2045). Orders should give the amount (number of units), catalog number and name of the standard requested. For example: 150 g (1 unit) of No. 11h Basic-Open-Hearth Steel, 0.2 percent C. These materials are distributed only in the units listed.

Acceptance of orders does not imply acceptance of any provision set forth in this order contrary to the policy, practice or regulations of the National Bureau of Standards in the U.S. Government. Prices as listed in this Catalog are subject to change without notice. Price changes when made are first announced in various NBS publications, especially the Technical News Bulletin, and in announcements mailed to users of these materials.

Prices in effect at time of shipment will be billed to the purchaser. No discounts are given on NBS Standard Reference Materials.

To provide better service to users of SRM's our name label files are periodically updated and/or corrected. If your name and address are not correct, please return the mail label portion of the envelope and indicate the corrections. Send it and all other inquiries to:

Office of Standard Reference Materials
National Bureau of Standards
Washington, D.C. 20234

FOREIGN ORDERS

A. Prepaid orders will be processed, subject to export-import regulations of the United States and country from which order originates, and shipped within 5 days provided export or import license is not required. (See mode of shipment-- Foreign Shipments.) Prepayment may be made by any of the following:

1. UNESCO coupons;
2. Bankers' draft against U.S. bank;
3. Bank to bank transfer on U.S. bank;
4. Letter of credit on a U.S. bank;
5. International Money Order.

All checks, coupons, etc., should be made payable to the National Bureau of Standards and must be in U.S. dollars.

B. Non-prepaid purchase orders from old customers with established credit will be processed within 10 days. Variations in prices and quantities shipped will be noted on invoices. Upon receipt of goods, payment can be made by any of the methods listed under A.

C. Pro-forma service, subject to export-import regulations, may require 60 days or more for processing. Customers are urged to use method A or B whenever possible for fastest service and to supply all necessary import documents and information with their order. Payment may be by any of the means shown under A above.

TERMS AND SHIPPING

DOMESTIC SHIPMENTS

Shipments of material (except for certain restricted categories, e.g., hydrocarbons, organic sulfur compounds, special nuclear materials, compressed gases and radioactive standards) intended for the United States, Mexico, and Canada are normally shipped prepaid air parcel post (providing that the parcel does not exceed the weight limits as prescribed by Postal Laws and Regulations) unless the purchaser requests a different mode of shipment, in which case the shipment will be sent collect. It is impractical for the Bureau to prepay shipping charges and add this cost to the billing invoice. Hydrocarbons, organic sulfur compounds, compressed gases, rubber compounding materials, radioactive standards and similar materials are shipped express collect.

FOREIGN SHIPMENTS

A. Small weight shipments over $100 in value and prepaid will be shipped by prepaid air parcel post. Shipments exceeding the parcel post weight limit must be handled through an agent (shipping or brokerage firm) located in the U.S. as designated by the purchaser. Parcels will be packed for overseas shipment and forwarded via express collect to the U.S. firm designated as agent.

B. Non-prepaid orders will be shipped by prepaid International Parcel Post, subject to size, weight, and category of material limitations. Any other mode of shipment requested by customer must be paid for by the customer. (Shipments excluded from International Parcel Post for any reason, must be handled through an agent [shipping or brokerage firm] located in the U.S. as designated by the purchaser. These parcels will be packed for overseas shipment and forwarded via express collect to the U.S. firm designated as agent.)