



# Consumables for Elemental Analyzers Consumables & Supplies Reference Cards New Instruments

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## Hydrogen, Nitrogen, Oxygen in Metals

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Last Updated: 3/7/19

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### Steel Pin Standards for Oxygen/Nitrogen

Part #	Size	% Oxygen	Standard Deviation	Expanded Uncertainty	% Nitrogen	Standard Deviation	Expanded Uncertainty	Lot #	Pieces per Bottle
<a href="#">AR644</a>	1g	0.0003	0.0001	0.0002	0.0140	0.0010	0.0020	718B	100
<a href="#">AR645</a>	1g	0.0035	0.0004	0.0008	0.0088	0.0004	0.0008	417C	100
<a href="#">AR646</a>	1g	0.0035	0.0004	0.0008	0.0738	0.0006	0.0014	318A	100
<a href="#">AR1647</a>	1g	0.0028	0.0002	0.0004	0.144	0.002	0.004	617B	100
<a href="#">AR1648</a>	1g	0.0099	0.0003	0.0007	0.0060	0.0004	0.0009	817C	100
<a href="#">AR1650</a>	1g	0.0096	0.0002	0.0005	0.0100	0.0004	0.0009	1117B	100
<a href="#">AR1651</a>	1g	0.0030	0.0002	0.0004	0.0202	0.0007	0.0014	316D	100
<a href="#">AR1652</a>	1g	0.0044	0.0004	0.0008	0.0542	0.0009	0.0018	717B	100
<a href="#">AR1653</a>	1g	0.0009	0.0002	0.0004	0.0034	0.0002	0.0005	1017B	100
AR1656	1g	SOLD	OUT	AND	DISCONTINUED	SEE	AR670		100
<a href="#">AR1657</a>	1g	0.0034	0.0002	0.0005	0.0319	0.0009	0.0018	115B	100
<a href="#">AR1658</a>	1g	0.0009	0.0002	0.0004	0.0756	0.0013	0.0031	717D	100
<a href="#">AR654</a>	0.5g	Sold	Out	Replacement	Lot Expected	April	22, 2019		100
<a href="#">AR655</a>	0.5	0.0037	0.0003	0.0006	0.392	0.013	0.029	618B	100
<a href="#">AR656</a>	0.5g	0.0036	0.0003	0.0007	0.0192	0.0008	0.0019	618A	100

AR657	0.5g	0.0099		0.0003	0.0006	0.0102	0.0004	0.0008	916A	100
AR658	0.5g	0.0013		0.0002	0.0005	0.0771	0.0007	0.0015	717C	100
AR659	0.5g	Sold Out		Replacement	Lot	Expected	June 3	2019		100
AR660	0.5g	Sold Out		Replacement	Lot	Expected	April 1	2019		100
AR661	0.5g	0.0008		0.0001	0.0002	0.0091	0.0008	0.0016	517C	100
AR662	0.5g	0.0032		0.0003	0.0006	0.0754	0.0012	0.0024	517B	100
AR663	0.5g	0.0031		0.0003	0.0006	0.144	0.003	0.007	1015D	100
AR667	0.5g	0.0034		0.0004	0.0008	0.0323	0.0008	0.0016	315B	100
AR668	0.5g	0.0010		0.0001	0.0002	0.0023	0.0003	0.0007	1014B	100
AR669	0.5g	Sold Out - No Replacement								
AR670	0.5g	0.0241		0.0010	0.0020	0.0124	0.0005	0.0010	216A	100
AR675	0.5g	Sold		Out	Replacement	Expected	May	3, 2019		100
AR676	0.5	0.0234		0.0022	0.0044	0.1180	0.0070	0.0140	514B	100

### Chip Standards for Carbon / Sulfur / Nitrogen

Part #	% Carbon	Standard Deviation	Expanded Deviation	% Sulfur	Standard Deviation	Expanded Deviation	% Nitrogen	Standard Deviation	Expanded Deviation	Lot #	Weight
AR946	0.0050	0.0004	0.0008	0.0077	0.0004	0.0008	0.0044	0.0002	0.0005	516E	150g
AR947	0.389	0.008	0.016	0.117	0.002	0.004	0.0090	0.0004	0.0008	1114B	150g
AR948	0.498	0.005	0.010	0.0780	0.0011	0.0025	0.0090	0.0003	0.0008	817D	150g
AR949	0.0137	0.0008	0.0016	0.027	0.002	0.004	860 PPM	12	24	82206	150g
AR950	0.053	0.002	0.004	0.0107	0.0005	0.0010	0.0032	0.0004	0.0008	317E	150g
AR951	0.161	0.002	0.005	0.0221	0.0013	0.0031	0.0073	0.0005	0.0012	918C	150g
AR952	0.482	0.003	0.006	0.020	0.001	0.002	0.0114	0.0005	0.0010	914A	150g
AR953	Sold	Out	Replacement	Lot	Expected	March 22, 2019					150g
AR954	0.401	0.006	0.012	0.0209	0.0007	0.0014	0.0067	0.0005	0.001	813A	150g
AR955	0.204	0.002	0.004	0.0284	0.0007	0.0014	91 PPM	2	4	734509306	150g
AR956	0.462	0.004	0.008	0.270	0.004	0.008	0.011	0.001	0.002	215C	150g
AR957	0.186	0.002	0.004	0.096	0.003	0.006	0.0091	0.0003	0.0006	914E	150g
AR958	0.015	0.001	0.002	0.023	0.002	0.004	0.068	0.002	0.004	212A	150g
AR959	Sold Out and Discontinued. Use AR949 or AR961 as Alternative										
AR960	0.121	0.003	0.006	0.0221	0.0009	0.0018	0.036	0.001	0.002	814B	150g
AR961	0.022	0.002	0.005	0.0093	0.0003	0.0007	0.041	0.002	0.004	112C	150g

### Zirconium Pin Standards for Hydrogen/Nitrogen/Oxygen

Part #	Size	% Oxygen	Standard Deviation	Expanded Uncertainty	% Nitrogen	Standard Deviation	Expanded Uncertainty	% Hydrogen	Standard Deviation	Expanded Uncertainty	Lot #	Pieces per Bottle
AR630	0.1g	0.149	0.006	0.012	0.0020	0.0005	0.0005	0.0010	0.0002	0.0004	815B	100
AR640	0.1g	0.1405	0.0042	0.0084	0.0050	0.0006	0.0012	0.0014	0.0002	0.0004	M20335506	100

### Steel Pin Standards for Hydrogen

Part #	Size	% Hydrogen	Standard Deviation	Expanded Uncertainty	Lot #	Pieces per Bottle
AR546	1g	0.000095	0.000013	0.000029	917C	100
AR555	1g	Sold Out	Replacement	Expected April	15, 2019	100
AR556	1g	0.00045	0.00005	0.0001	517A	100
AR558	1g	0.00074	0.00006	0.000012	716B	100

### Titanium Pin Standards for Hydrogen/Oxygen/Nitrogen

Part #	Size	% Oxygen	Standard Deviation	Expanded Uncertainty	% Nitrogen	Standard Deviation	Expanded Uncertainty	% Hydrogen	Standard Deviation	Expanded Uncertainty	Lot #	Pieces per
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													Bottle
AR631	0.1g	0.359	0.011	0.022	0.0065	0.0009	0.0018	0.0017	0.0002	0.0004	1216B	100	
AR635	0.1g	0.1445	0.0042	0.0091	0.0148	0.0007	0.0018	0.0044	0.0004	0.0009	1017A	100	
AR637	0.1g	Sold	Out	Replacment	Expected	April	15, 2019					100	
AR641	0.1g	0.1958	0.0037	0.0099	0.0309	0.0012	0.0025	0.0041	0.0004	0.0007	118B	100	
AR642	0.1g	Disc.	Please see	AR635,	AR585,	or	AR649	for	comparable	values		100	
AR647	0.1g	0.1300	0.0040	0.0080	0.0080	0.0006	0.0014	0.0103	0.0004	0.0009	917A	100	
AR648	0.1g	Sold	Out	Replacement	Lot	Expected	April 1	2019				100	
AR649	0.1g	0.1101	0.0030	0.0066	0.0066	0.0008	0.0017	0.0212	0.0005	0.0011	1217B	100	
AR650	0.1g	0.089	0.006	0.013	0.0087	0.0009	0.0021	0.0068	0.004	0.0010	718A	100	
AR651	0.1g	SOLD	OUT	REPLACEMENT	LOT	EXPECTED	JUNE 3	2019				100	

### Titanium/Zirconium Pin Standards for Hydrogen/Carbon

Part #	Type	Size	% Hydrogen	Standard Deviation	Expanded Uncertainty	% Carbon	Standard Deviation	Expanded Uncertainty	Lot #	Pieces per Bottle
AR585	Ti	0.25g	0.0068	0.0005	0.0011	0.0063	0.007	0.0019	618C	100
AR586	Ti	0.25g	0.0018	0.0002	0.0005	0.019	0.001	0.002	315D	100
AR587	Ti	0.25g	0.0111	0.0009	0.0018	0.008	0.001	0.002	215B	100
AR588	Ti	0.25g	0.0137	0.0004	0.0008	0.008	0.0015	0.0030	714E	100
AR589	Ti	0.25g	0.0192	0.0005	0.0010	0.008	0.001	0.002	814C	100
AR590	Zr	0.25g	0.0010	0.0002	0.0004	0.016	0.001	0.002	815C	100
AR591	Ti	0.25g	0.0017	0.0002	0.0004	0.047	0.0006	0.0012	1216C	100
AR592	Ti	0.25g	0.0290	0.0015	0.0030	0.0072	0.0006	0.0012	616A	100

### Copper Pin Standards for Oxygen/Sulfur

Part #	Size	% Oxygen	Standard Deviation	Expanded Uncertainty	% Sulfur	Standard Deviation	Expanded Uncertainty	Lot #	Pieces per Bottle
AR147	1g	0.0007	0.0001	0.0003	0.0010	0.0002	0.0004	918B	100
AR148	1g	0.0493	0.0009	0.0020	0.0013	0.0002	0.0005	518B	100
AR149	1g	0.0316	0.0004	0.0008	0.0016	0.0002	0.0004	1116C	100

### Iron Powder Standards for Oxygen/Nitrogen

Part #	% Oxygen	Standard Deviation	Expanded Uncertainty	% Nitrogen	Standard Deviation	Expanded Uncertainty	Lot #	Unit Weight
KED1025	0.90	0.03	0.07	0.012	0.0015	0.0030	1212C	50g
AR6101				1.11	0.05	0.18	118D	25G
AR6102				1.96	0.07	0.28	118E	25G
AR6103				2.93	0.11	0.31	118F	25G

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