











Results of our tests of rice and rice products

We tested 223 samples* of packaged, uncooked rice and rice-containing foods and beverages purchased in April, May and August 2012, many from the New York metropolitan area and from online retailers. A minimum of three samples of each product were analyzed and for the majority of the 65 products we looked at, we tested one sample from each of three lots. For the rice, the country or state(s) of origin column indicates in which country or state the rice was grown; in two instances, that information was not available. There's no federal limit for arsenic in most food. Our findings are a spot check of the market and are too limited to offer general conclusions about arsenic levels in specific brands or within/across rice product categories. In addition to test results for total arsenic, lead and cadmium, the table below displays test results for inorganic arsenic species, which are classified as human carcinogens, and organic arsenic species, which may also be a health concern. The two species of inorganic arsenic listed in the table are arsenite [As(III)] and arsenate [As(V)] and the two species of organic forms of arsenic are dimethylarsinic acid (DMA) and monomethylarsonic acid (MMA).

Product	Origin	Lot number	Total arsenic (ppb)	Inorganic arsenic sum (ppb)	Percent of inorganic arsenic	Organic arsenic sum (ppb)	Total lead (ppb)	Total cadmium (ppb)
RICE								
365 Everyday Value Long Grain Brown (Whole Foods)	NA	1	282	179	63.4%	66.9	0.7	27.1
		2	255	186	72.9	45.0	1.1	27.2
		3	210	165	78.5	44.4	1.1	33.7
365 Everyday Value Organic Indian Basmati White (Whole Foods)	India	1	99.9	64.7	64.8	15.4	2.4	9.3
		2	82.2	64.1	78.0	17.0	2.1	11.3
		3	97.7	78.5	80.3	16.9	1.1	7.5
365 Everyday Value Organic Thai Jasmine White (Whole Foods)	Thailand	1	150	66.2	44.1	57.3	2.7	6.5
		2	116	64.2	55.3	52.2	2.1	3.6
		3	104	60.0	57.7	48.0	2.2	4.2
Archer Farms Organic Basmati (Target)	India	1	62.7	29.4	46.9	21.0	11.8	51.1
		2	81.7	49.2	60.2	21.7	2.2	38.8
		3	54.7	30.1	55.0	20.6	4.7	47.5
Archer Farms Organic Jasmine (Target)	Thailand	1	112	60.3	53.8	36.2	0.9	12.7
		2	121	75.5	62.4	42.1	2.2	21.4
		3	115	86.9	75.6	41.0	1.7	20.3
Cajun Country Enriched Long Grain	Louisiana	④	328	107	32.5	173	1.9	14.9
		③ ④	348	106	30.5	145	2.2	25.8
		③ ④	331	116	35.0	179	< 2.5 U	16.8
Cajun Country Popcorn Long Grain	Louisiana	1	350	86.5	24.7	177	3.3	23.1
		2 ③	436	112	25.8	280	< 2.5 U	29.1
		2 ③	377	117	31.1	298	1.2	22.9
Canilla Extra Long Grain Enriched	USA	1	198	70.0	35.4	77.6	1.6	16.5
		2	431	159	36.8	231	5.9	26.2
		3	286	96.3	33.7	218	2.4	36.7
Carolina Enriched Extra Long Grain	AR, LA, TX ⑤	1 ②	194	85.5	44.1	83.9	3.2	9.7
		1 ②	194	85.2	43.9	107	4.4	10.3
		2	236	107	45.4	154	1.5	36.5
		3	144	75.2	52.2	88.4	0.9	18.9
Carolina Jasmine Enriched Thai Fragrant Long Grain	Thailand	1	159	67.0	42.1	66.0	1.1	7.9
		2	119	70.1	58.9	61.7	4.4	12.0
		3	126	66.9	53.1	61.0	6.9	7.5
Carolina Whole Grain Brown	AR, LA, TX ⑤	1	307	143	46.5	86.6	1.5	10.8
		2	277	158	56.9	118	1.4	9.8
		3	318	193	60.8	146	1.5	15.8
Della Basmati Brown	Arkansas	1	308	131	42.6	98.6	3.2	40.4
		2	568	210	36.9	394	3.3	80.3
		3	458	198	43.3	311	1.6	21.6
Della Basmati White	Arkansas	1	193	77.0	39.9	54.6	0.5	8.5
		2	227	86.1	37.9	121	1.3	14.9
		3	191	99.1	51.9	60.0	0.9	10.2

Product	Origin	Lot number	Total arsenic (ppb)	Inorganic arsenic sum (ppb)	Percent of inorganic arsenic	Organic arsenic sum (ppb)	Total lead (ppb)	Total cadmium (ppb)	
RICE continued									
Doguet's Brown	USA	1	294	125	42.7	140	3.9	21.8	
		2 ⁽²⁾ ⁽³⁾	339	131	38.5	148	4.8	27.6	
		2 ⁽³⁾	283	141	49.8	168	3.0	24.2	
		2 ⁽²⁾ ⁽³⁾	345	149	43.3	153	5.0	29.1	
Doguet's Enriched Long Grain	USA	1	219	97.4	44.5	74.5	8.2	42.3	
		2	162	72.8	44.9	114	2.5	52.6	
		1	124	80.3	64.8	65.5	4.3	31.4	
Goya Enriched Medium Grain	NA	1	297	85.0	28.6	169	3.0	19.7	
		USA	2	213	114	53.4	89.4	6.5	11.6
		USA	3	196	102	51.8	112	4.0	14.9
Great Value Brown (Walmart)	USA	1	212	116	54.9	125	1.2	10.2	
		2 ⁽²⁾	327	103	31.6	112	5.2	22.3	
		2 ⁽²⁾	360	133	37.0	106	7.4	20.4	
		3	214	151	70.4	59.0	1.7	14.6	
Great Value Parboiled (Walmart)	USA	1	239	95.7	40.0	61.9	17.8	16.2	
		2	168	91.4	54.4	54.8	9.1	8.2	
		3	138	98.4	71.3	62.5	4.9	6.5	
Jazzmen Louisiana Aromatic Brown	Louisiana	⁽⁴⁾	265	104	39.4	186	9.4	56.7	
		⁽⁴⁾	295	152	51.5	135	3.3	9.2	
		⁽⁴⁾	237	191	80.5	118	2.6	9.8	
Jazzmen Louisiana Aromatic White	Louisiana	1	168	71.9	42.8	67.7	1.7	6.9	
		1	209	90.0	43.1	117	2.4	9.2	
		1	180	85.4	47.4	108	1.8	8.9	
Lundberg California White Basmati	California	1 ⁽²⁾	62.2	34.4	55.3	21.9	1.8	11.3	
		1 ⁽²⁾	66.4	32.2	48.5	21.6	0.4	11.6	
		2	75.5	35.4	46.9	24.7	1.8	13.6	
		3	65.5	27.9	42.6	20.7	0.2	11.2	
Lundberg Short Grain Brown	California	1	204	84.5	41.4	79.5	2.9	5.3	
		2	169	119	70.4	31.8	1.0	11.3	
		3	184	96.7	52.6	73.0	3.1	6.5	
Mahatma Extra Long Grain Enriched	USA	1	284	110	38.6	148	2.0	27.0	
		2	220	102	46.2	124	1.3	10.8	
		3	129	75.8	58.8	66.3	0.9	8.4	
Market Pantry Enriched Long Grain White (Target)	AR, LA, TX ⁽⁵⁾	1	254	98.1	38.6	96.7	5.2	19.9	
		2	191	103	53.9	92.3	2.8	16.4	
		3	184	89.6	48.7	85.6	1.5	10.6	
Martin Long Grain Brown	Missouri	⁽⁴⁾ ⁽⁶⁾	398	214	53.7	211	1.5	27.8	
		⁽⁴⁾ ⁽⁶⁾	455	211	46.3	203	2.7	26.7	
		⁽⁴⁾ ⁽⁶⁾	143	82.2	57.5	42.7	< 2.5 U	10.1	
		⁽⁴⁾ ⁽⁶⁾	113	83.7	74.1	47.3	1.3	7.2	
Martin Long Grain Enriched	Missouri	⁽³⁾ ⁽⁴⁾	193	59.5	30.8	114	< 2.5 U	18.8	
		⁽³⁾ ⁽⁴⁾	147	50.7	34.5	82.8	0.9	12.1	
		⁽⁴⁾	133	76.2	57.3	69.8	0.4	15.1	
Rice Select Organic Texmati White	Texas	1	330	83.5	25.3	210	1.8	25.1	
		2	448	106	23.7	364	1.0	8.9	
		3	917	102	11.2	862	0.8	7.0	
Texas Best Organics Long Grain Brown	Texas	1	287	98.6	34.4	159	2.1	8.6	
		2	269	169	62.8	119	2.0	5.4	
		3	252	92.7	36.8	155	1.4	6.4	
Texas Best Organics Long Grain White	Texas	1	226	92.8	41.1	79.8	1.4	7.0	
		2	176	71.2	40.5	103	5.1	4.5	
		3	138	96.0	69.6	78.5	0.7	4.8	
Trader Joe's White Basmati From India	India	1	85.0	55.1	64.8	14.9	2.1	19.3	
		2	86.0	63.6	74.0	13.0	1.0	15.9	
		3	75.9	57.4	75.6	17.4	3.0	13.5	

Product	Origin	Lot number	Total arsenic (ppb)	Inorganic arsenic sum (ppb)	Percent of inorganic arsenic	Organic arsenic sum (ppb)	Total lead (ppb)	Total cadmium (ppb)
RICE continued								
Uncle Ben's Original Enriched Parboiled Long Grain	USA	1	246	141	57.2	979	3.8	14.6
		2	220	130	59.3	141	3.2	15.5
		3	245	137	55.9	113	2.7	15.2
Uncle Ben's Whole Grain Brown	USA	1 	266	143	53.9	112	3.1	23.5
		1 	207	129	62.3	118	1.5	23.1
		2	285	149	52.3	126	2.2	9.3
		3	209	127	60.9	81.1	2.1	13.7
BABY CEREAL								
Beech-Nut Homestyle Rice		1	130	67.1	51.6	32.1	3.8	8.7
		2	110	55.2	50.2	28.5	9.9	5.8
		3	117	61.1	52.2	29.2	7.6	5.7
Earth's Best Organic Whole Grain Rice		1	149	116	78.1	27.7	2.5	20.1
		2	257	160	62.1	57.1	2.3	31.7
		3	274	180	65.5	50.2	1.1	15.6
Gerber Rice		1	232	109	46.9	102	4.3	23.1
		2	264	109	41.1	121	5.6	24.6
		3 	249	101	40.6	78.3	12.3	23.3
		3 	230	108	46.9	84.4	6.8	22.3
Gerber SmartNourish Organic Brown Rice		1	97.7	53.6	54.9	20.9	5.5	10.9
		2	117	65.5	56.0	44.8	8.9	10.6
		3	329	86.0	26.1	199	11.9	14.6
HOT CEREAL								
Bob's Red Mill Brown Rice Farina Creamy Rice		1	152	103	67.7	37.1	2.2	5.4
		2	215	171	79.6	30.4	0.7	8.1
		3	100	58.4	58.4	16.2	1.7	3.9
Bob's Red Mill Organic Brown Rice Farina Creamy Rice		1	157	73.8	47.0	47.4	0.6	6.9
		2	165	107	64.6	47.1	< 0.5 U	4.5
		3	131	93.9	71.7	17.8	1.5	2.4
Cream of Rice		1 	91.1	43.3	47.5	26.1	< 0.4 U	6.1
		1 	74.4	45.9	61.7	27.4	< 0.4 U	6.5
		2	97.5	48.8	50.1	31.7	< 0.4 U	5.3
		3	80.4	46.1	57.3	27.1	< 0.5 U	6.2
READY-TO-EAT CEREAL								
Arrowhead Mills Organic Sweetened Rice Flakes		1	963	126	13.1	765	7.5	11.9
		2	398	129	32.4	259	6.4	5.3
		3	399	120	30.1	270	11.7	18.4
Barbara's Brown Rice Crisps		1	371	197	53.1	169	9.0	8.5
		2	376	222	58.9	162	5.8	10.0
		3	326	199	61.0	128	6.8	7.6
General Mills Rice Chex Gluten Free		1 	252	127	50.6	101	10.0	14.3
		1 	240	127	52.9	102	7.6	14.6
		2	256	125	48.8	103	7.4	16.8
		3	344	132	38.3	214	7.6	13.2
Kellogg's Rice Krispies		1	168	75.9	45.2	85.2	< 1.9 U	7.4
			169	78.0	46.2	88.1	3.8	31.7
			171	72.7	42.5	91.0	3.2	30.9
		3	196	86.0	43.9	101	2.3	11.8
Kellogg's Rice Krispies Gluten Free		1	126	90.1	71.5	25.6	2.5	4.6
		2	125	88.7	71.0	26.1	5.6	5.2
		3	123	84.1	68.4	27.1	2.3	7.1
Trader Joe's Crisp Rice Cereal		1	212	96.4	45.5	100	4.2	7.5
		2	243	101	41.5	136	3.7	9.9
		3	228	96.0	42.1	123	4.0	8.1

Product	Origin	Lot number	Total arsenic (ppb)	Inorganic arsenic sum (ppb)	Percent of inorganic arsenic	Organic arsenic sum (ppb)	Total lead (ppb)	Total cadmium (ppb)
RICE CAKES & CRACKERS								
Asian Gourmet Plain		1	113	40.6	35.9	49.5	4.7	3.4
		2	160	40.1	25.1	68.7	3.9	4.6
		3	208	40.9	19.7	86.1	6.4	4.5
Edward & Sons Organic Brown Rice Snaps Unsalted Plain		1	199	107	53.8	40.4	3.0	13.5
		2	102	58.9	57.7	16.0	2.4	7.0
		3	112	62.5	55.8	17.9	1.7	7.6
Lundberg Brown Rice Organic		1	195	90.5	46.4	64.8	0.8	6.8
		2 (2)	171	113	66.3	56.2	2.4	7.1
		2 (2)	179	90.0	50.3	38.3	2.9	6.1
		3	161	74.5	46.3	54.3	< 0.6 U	7.2
Quaker Lightly Salted		1	239	112	47.0	73.3	3.3	11.1
		2	205	90.2	44.0	69.9	1.9	24.0
		3	208	100	48.2	62.4	3.0	26.0
Suzie's Whole Grain Thin Cakes		1	347	280	80.8	87.8	3.8	14.4
		2 (2)	254	138	54.5	46.0	5.5	36.0
		2 (2)	244	136	55.6	52.7	6.2	35.4
		3	397	198	49.9	69.7	3.5	17.9
RICE PASTA								
Annie Chun's Maifun Rice Noodles		1	85.3	55.7	65.3	23.0	9.6	10.0
		2	82.8	52.5	63.4	24.1	5.4	11.1
		3	98.4	47.6	48.4	34.2	5.6	13.0
DeBoles Rice Spirals		1	300	137	45.7	156	7.0	17.6
		2	280	125	44.6	111	6.6	16.9
		3	271	133	49.2	116	8.7	17.5
Tinkyada Brown Rice Pasta Shells		1	214	77.1	36.0	114	9.6	11.4
		2	249	104	41.6	142	52.8	17.9
		3	190	80.4	42.3	88.1	12.6	14.3
Trader Joe's Organic Brown Rice Pasta Fusilli		1	347	118	33.9	218	4.5	6.7
		2 (2)	389	126	32.4	253	4.5	8.8
		2 (2)	379	124	32.8	240	5.0	9.3
		3	361	107	29.8	207	6.4	6.7
RICE FLOUR								
Arrowhead Mills Organic Brown		1	361	184	51.1	158	4.1	18.3
		2	565	159	28.1	350	3.7	12.3
		3	540	145	26.8	306	3.2	10.6
Arrowhead Mills Organic White		1	373	99.3	26.6	238	2.9	8.0
		2	424	93.1	22.0	284	4.2	10.0
		3	180	59.1	32.8	79.4	5.1	4.2
Goya Enriched		1	254	96.5	38.0	129	7.9	13.8
		2	209	78.4	37.5	109	1.7	24.9
		3	161	68.9	42.8	74.9	9.7	7.9
RICE DRINKS								
Pacific Rice Low Fat Plain Beverage		1	18.0	12.8	71.1	4.3	1.0	0.3
		2	17.2	14.5	84.3	5.3	0.4	0.3
		3	17.1	16.1	94.2	3.4	0.4	0.9
Rice Dream Original Classic Rice Drink		1 (2)	70.1	12.0	17.1	61.4	0.5	0.7
		1 (2)	66.3	11.5	17.3	58.6	0.5	0.5
		2	20.9	14.1	67.5	9.4	0.4	0.4
		3	37.1	18.4	49.6	24.9	1.0	0.7

Product	Origin	Lot number	Total arsenic (ppb)	Inorganic arsenic sum (ppb)	Percent of inorganic arsenic	Organic arsenic sum (ppb)	Total lead (ppb)	Total cadmium (ppb)
RICE SYRUP								
Lundberg Sweet Dreams Eco-Farmed Brown		1	193	139	72.2	38.8	1.7	0.8
		2	182	129	70.8	44.3	0.5	0.8
		3	176	142	80.9	29.1	0.6	0.7
Lundberg Sweet Dreams Organic Brown		1	178	136	76.6	30.1	0.4	1.4
		2	180	141	78.3	36.7	0.5	1.2
		3	167	111	66.5	36.5	1.7	1.2
RICE VINEGAR								
Asian Gourmet Plain		1 ②	4.4	3.0	68.2	2.8	2.7	< 0.2 U
		1 ②	5.7	3.5	61.4	2.8	2.7	0.6
		1	4.6	3.5	76.1	2.8	2.9	0.2
		1	7.3	7.2	98.6	2.8	2.7	0.3

Total arsenic, lead and cadmium by ICP-DRC-MS with reporting limits of 0.2-4.0 ppb for arsenic, 0.1-2.5 ppb for lead and 0.1-5.6 ppb for cadmium. Arsenic species by IC-ICP-DRC-MS with the following reporting limits: 0.2-2.3 ppb for As(III), 0.8-4.4 ppb for As(V), 1.3-2.8 ppb for DMA and 0.8-2.9 ppb for MMA. The limits of quantification (LOQ) for all analyses reflect the instrument performance on the date of analysis.

Unless noted, each row represents a unique sample from the lot indicated.

① For calculation of sums of arsenic species, all values reported as less than the reporting limits were applied as 100% of the reporting limits. Total inorganic arsenic is the sum of arsenite [As(III)] and arsenate [As(V)] and total organic arsenic is the sum of DMA and MMA. Percent inorganic species is calculated using the sum of the inorganic arsenic species divided by the total arsenic. The sum of all arsenic species may not add up to the total arsenic due to different methods used for the two analyses.

② Blind duplicates of the same sample.

③ Two individual samples from the same online purchase were tested.

④ No lot codes on product.

⑤ Rice is grown in one or more of these states.

⑥ Four separate samples were tested, two from each of two online purchases of the product (listed in order received).

NA=not available. * These include tests of blind duplicates of the same sample.