

# HAIR ELEMENTS



POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	7.0	< 7.0		
Antimony	0.072	< 0.066		
Arsenic	0.036	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.10	< 2.0		
Cadmium	0.033	< 0.15		
Lead	0.21	< 2.0		
Mercury	0.42	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.028	< 0.060		
Nickel	0.09	< 0.40		
Silver	0.03	< 0.12		
Tin	0.13	< 0.30		
Titanium	0.72	< 1.0		
Total Toxic Representation				

ESSENTIAL AND OTHER ELEMENTS							
ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE				
			2.5 <sup>th</sup>	16 <sup>th</sup>	50 <sup>th</sup>	84 <sup>th</sup>	97.5 <sup>th</sup>
Calcium	340	200- 750					
Magnesium	87	25- 75					
Sodium	230	12- 90					
Potassium	22	9- 40					
Copper	18	10- 28					
Zinc	220	130- 200					
Manganese	0.27	0.15- 0.65					
Chromium	0.45	0.20- 0.40					
Vanadium	0.023	0.018- 0.065					
Molybdenum	0.041	0.025- 0.064					
Boron	0.33	0.40- 3.0					
Iodine	0.29	0.25- 1.3					
Lithium	0.018	0.007- 0.023					
Phosphorus	253	160- 250					
Selenium	1.5	0.95- 1.7					
Strontium	0.68	0.30- 3.5					
Sulfur	48000	44500- 52000					
Barium	0.58	0.16- 1.6					
Cobalt	0.008	0.013- 0.035					
Iron	12	5.4- 13					
Germanium	0.032	0.045- 0.065					
Rubidium	0.016	0.011- 0.12					
Zirconium	0.52	0.020- 0.44					

SPECIMEN DATA				RATIOS		
<b>COMMENTS:</b>				<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected: 3/19/2008	Sample Size: 0.202 g			Ca/Mg	3.91	4- 30
Date Received: 3/22/2008	Sample Type: Head			Ca/P	1.34	0.8- 8
Date Completed: 3/28/2008	Hair Color: Brown			Na/K	10.5	0.5- 10
	Treatment:			Zn/Cu	12.2	4- 20
Methodology: ICP-MS	Shampoo: Various			Zn/Cd	> 999	> 800

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