

US EPA ARCHIVE DOCUMENT

**90th Percentile Media Concentrations and Risks from Application of Fertilizer Products  
Nickel (Adult)**

Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>	
Seattle, WA	Boron	0.00240	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	
	Gypsum Products	0.35800	0.00467	0.00438	0.01580	0.00824	0.00220	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108	
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	8.68000	0.13300	0.12600	0.30500	0.18100	0.05040	0.00001	0.00030	0.00050	0.00030	0.00040	0.00710	0.00900	0.00000	0.00000	0.01730	
	Micronutrients	0.01590	0.00020	0.00018	0.00050	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05150	0.00066	0.00061	0.00228	0.00100	0.00029	0.00000	0.00000	0.00001	0.00000	0.00000	0.00007	0.00007	0.00006	0.00000	0.00014	
	NPK as N	1.26000	0.01590	0.01450	0.04800	0.02180	0.00647	0.00000	0.00005	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
	NPK for P2O5	0.23900	0.00326	0.00302	0.01040	0.00678	0.00218	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	P2O5 - 1	0.27000	0.00361	0.00336	0.01180	0.00693	0.00197	0.00000	0.00001	0.00003	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00087	
	Potash	0.01640	0.00020	0.00019	0.00062	0.00028	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.09000	0.01250	0.01140	0.02300	0.00879	0.00292	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.25400	0.00322	0.00299	0.01330	0.01010	0.00314	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107	
	Albuquerque, NM	Boron	0.00251	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.39000	0.00457	0.00443	0.01650	0.00866	0.00239	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00051	0.00000	0.00000	0.00109
Iron		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Liming Materials		8.96000	0.12900	0.12600	0.32400	0.18300	0.05220	0.00000	0.00030	0.00050	0.00030	0.00050	0.00800	0.00900	0.00000	0.00000	0.01830	
Micronutrients		0.01700	0.00019	0.00018	0.00053	0.00026	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
Mn		0.05450	0.00065	0.00063	0.00244	0.00107	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015	
NPK as N		1.36000	0.01560	0.01510	0.05190	0.02270	0.00682	0.00000	0.00005	0.00010	0.00006	0.00008	0.00100	0.00100	0.00000	0.00000	0.00224	
NPK for P2O5		0.25500	0.00318	0.00306	0.01140	0.00731	0.00232	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
P2O5 - 1		0.28700	0.00356	0.00347	0.01250	0.00703	0.00206	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
Potash		0.01820	0.00020	0.00019	0.00065	0.00030	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
S as Nutrient		1.18000	0.01220	0.01180	0.02410	0.00887	0.00303	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Zinc		0.29300	0.00310	0.00300	0.01410	0.01140	0.00322	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107	
Atlanta, GA		Boron	0.00229	0.00003	0.00003	0.00012	0.00006	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.35000	0.00446	0.00419	0.01520	0.00781	0.00213	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	8.42000	0.12500	0.11800	0.29900	0.16800	0.04520	0.00000	0.00030	0.00050	0.00030	0.00040	0.00700	0.00800	0.00000	0.00000	0.01620	
	Micronutrients	0.01520	0.00018	0.00017	0.00048	0.00023	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00000	0.00000	0.00002	
	Mn	0.04990	0.00062	0.00058	0.00218	0.00096	0.00028	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014	
	NPK as N	1.21000	0.01490	0.01390	0.04630	0.02070	0.00606	0.00000	0.00004	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
	NPK for P2O5	0.22800	0.00323	0.00296	0.00993	0.00635	0.00200	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085	
	P2O5 - 1	0.26100	0.00350	0.00327	0.01120	0.00662	0.00190	0.00000	0.00001	0.00002	0.00002	0.00002	0.00030	0.00040	0.00000	0.00000	0.00076	
	Potash	0.01570	0.00019	0.00018	0.00059	0.00026	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.03000	0.01190	0.01100	0.02190	0.00854	0.00281	0.00000	0.00004	0.00005	0.00003	0.00002	0.00050	0.00060	0.00000	0.00000	0.00120	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.24900	0.00314	0.00289	0.01210	0.01050	0.00295	0.00000	0.00001	0.00003	0.00002	0.00002	0.00041	0.00050	0.00000	0.00000	0.00098	

**90th Percentile Media Concentrations and Risks from Application of Fertilizer Products  
Nickel (Adult)**

Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>
Bismarck, ND	Boron	0.00248	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
	Gypsum Products	0.38300	0.00442	0.00437	0.01620	0.00809	0.00227	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liming Materials	9.28000	0.12600	0.12300	0.32100	0.17400	0.04950	0.00001	0.00030	0.00050	0.00030	0.00050	0.00700	0.00900	0.00000	0.00000	0.01730
	Micronutrients	0.01670	0.00018	0.00017	0.00053	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003
	Mn	0.05310	0.00061	0.00060	0.00239	0.00106	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014
	NPK as N	1.37000	0.01470	0.01440	0.05040	0.02210	0.00657	0.00000	0.00005	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222
	NPK for P2O5	0.25300	0.00299	0.00296	0.01110	0.00702	0.00217	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085
	P2O5 - 1	0.28100	0.00343	0.00338	0.01230	0.00676	0.00199	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086
	Potash	0.01780	0.00019	0.00019	0.00064	0.00029	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004
	S as Nutrient	1.13000	0.01140	0.01110	0.02360	0.00825	0.00280	0.00000	0.00004	0.00005	0.00003	0.00003	0.00040	0.00060	0.00000	0.00000	0.00111
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	0.28600	0.00301	0.00297	0.01390	0.01080	0.00307	0.00000	0.00001	0.00002	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00106
	Boise, ID	Boron	0.00258	0.00003	0.00003	0.00014	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Gypsum Products		0.39800	0.00483	0.00467	0.01710	0.00876	0.00243	0.00000	0.00002	0.00003	0.00002	0.00003	0.00050	0.00060	0.00000	0.00000	0.00118
Iron		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liming Materials		9.56000	0.14200	0.13200	0.33700	0.19000	0.05540	0.00001	0.00030	0.00050	0.00030	0.00050	0.00800	0.00910	0.00000	0.00000	0.01840
Micronutrients		0.01750	0.00020	0.00019	0.00055	0.00026	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003
Mn		0.05630	0.00067	0.00064	0.00249	0.00107	0.00032	0.00000	0.00000	0.00001	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015
NPK as N		1.42000	0.01640	0.01570	0.05430	0.02350	0.00730	0.00000	0.00005	0.00010	0.00007	0.00008	0.00110	0.00100	0.00000	0.00000	0.00235
NPK for P2O5		0.26100	0.00328	0.00316	0.01170	0.00743	0.00237	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086
P2O5 - 1		0.30000	0.00366	0.00352	0.01280	0.00728	0.00216	0.00000	0.00001	0.00003	0.00002	0.00002	0.00040	0.00050	0.00000	0.00000	0.00097
Potash		0.01840	0.00021	0.00021	0.00068	0.00032	0.00009	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004
S as Nutrient		1.22000	0.01300	0.01240	0.02480	0.00924	0.00311	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00070	0.00000	0.00000	0.00131
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc		0.30000	0.00335	0.00325	0.01420	0.01210	0.00339	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00060	0.00000	0.00000	0.00117
Boulder, CO		Boron	0.00254	0.00003	0.00003	0.00014	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Gypsum Products	0.39000	0.00473	0.00455	0.01660	0.00897	0.00237	0.00000	0.00002	0.00004	0.00002	0.00003	0.00050	0.00051	0.00000	0.00000	0.00110
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liming Materials	9.23000	0.13700	0.13200	0.32700	0.18300	0.05220	0.00001	0.00030	0.00050	0.00030	0.00050	0.00800	0.00900	0.00000	0.00000	0.01830
	Micronutrients	0.01750	0.00020	0.00019	0.00054	0.00026	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003
	Mn	0.05500	0.00065	0.00063	0.00247	0.00107	0.00031	0.00000	0.00000	0.00001	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015
	NPK as N	1.38000	0.01580	0.01520	0.05300	0.02320	0.00715	0.00000	0.00005	0.00010	0.00007	0.00008	0.00100	0.00100	0.00000	0.00000	0.00225
	NPK for P2O5	0.25300	0.00323	0.00312	0.01140	0.00730	0.00240	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086
	P2O5 - 1	0.29100	0.00368	0.00351	0.01290	0.00718	0.00210	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00050	0.00000	0.00000	0.00096
	Potash	0.01810	0.00021	0.00020	0.00066	0.00030	0.00009	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004
	S as Nutrient	1.16000	0.01270	0.01210	0.02400	0.00910	0.00305	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	0.29500	0.00326	0.00313	0.01410	0.01190	0.00325	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107

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Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>	
Casper, WY	Boron	0.00249	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	
	Gypsum Products	0.38500	0.00442	0.00436	0.01630	0.00831	0.00227	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108	
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	9.37000	0.12400	0.12000	0.32100	0.17300	0.05060	0.00001	0.00030	0.00050	0.00030	0.00050	0.00700	0.00900	0.00000	0.00000	0.01730	
	Micronutrients	0.01690	0.00018	0.00018	0.00053	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05360	0.00061	0.00060	0.00244	0.00103	0.00029	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014	
	NPK as N	1.35000	0.01500	0.01480	0.05160	0.02170	0.00667	0.00000	0.00005	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
	NPK for P2O5	0.25500	0.00308	0.00303	0.01080	0.00674	0.00222	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085	
	P2O5 - 1	0.28800	0.00337	0.00333	0.01210	0.00670	0.00204	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	Potash	0.01740	0.00019	0.00019	0.00065	0.00029	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.15000	0.01140	0.01110	0.02400	0.00845	0.00285	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.28300	0.00298	0.00294	0.01400	0.01100	0.00295	0.00000	0.00001	0.00002	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00106	
	Charleston, SC	Boron	0.00232	0.00003	0.00003	0.00012	0.00006	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.35200	0.00438	0.00416	0.01520	0.00761	0.00218	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liming Materials		8.70000	0.12200	0.11700	0.30100	0.16800	0.04480	0.00003	0.00030	0.00050	0.00030	0.00040	0.00700	0.00800	0.00000	0.00000	0.01620	
Micronutrients		0.01530	0.00018	0.00017	0.00048	0.00022	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
Mn		0.05030	0.00061	0.00058	0.00223	0.00096	0.00028	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014	
NPK as N		1.21000	0.01420	0.01340	0.04720	0.02050	0.00605	0.00000	0.00004	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
NPK for P2O5		0.23200	0.00306	0.00288	0.01010	0.00646	0.00199	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085	
P2O5 - 1		0.26200	0.00343	0.00325	0.01120	0.00646	0.00188	0.00000	0.00001	0.00002	0.00002	0.00002	0.00030	0.00040	0.00000	0.00000	0.00076	
Potash		0.01570	0.00019	0.00018	0.00060	0.00026	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
S as Nutrient		1.04000	0.01150	0.01090	0.02250	0.00823	0.00274	0.00000	0.00004	0.00004	0.00003	0.00002	0.00040	0.00060	0.00000	0.00000	0.00109	
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Zinc		0.24600	0.00310	0.00290	0.01210	0.01010	0.00289	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00050	0.00000	0.00000	0.00096	
Chicago, IL		Boron	0.00244	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.37100	0.00487	0.00448	0.01600	0.00825	0.00226	0.00000	0.00001	0.00004	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00109
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liming Materials	8.94000	0.13100	0.12800	0.32000	0.18800	0.05200	0.00002	0.00030	0.00050	0.00030	0.00040	0.00800	0.00900	0.00000	0.00000	0.01820	
	Micronutrients	0.01620	0.00020	0.00018	0.00052	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05280	0.00067	0.00062	0.00235	0.00106	0.00029	0.00000	0.00000	0.00001	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015	
	NPK as N	1.27000	0.01610	0.01460	0.04940	0.02270	0.00651	0.00000	0.00005	0.00010	0.00007	0.00007	0.00100	0.00100	0.00000	0.00000	0.00224	
	NPK for P2O5	0.24500	0.00332	0.00317	0.01080	0.00705	0.00224	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	P2O5 - 1	0.27600	0.00387	0.00355	0.01200	0.00722	0.00201	0.00000	0.00001	0.00003	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00087	
	Potash	0.01690	0.00021	0.00020	0.00063	0.00028	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.10000	0.01300	0.01200	0.02300	0.00931	0.00306	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.27200	0.00347	0.00319	0.01300	0.01160	0.00323	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107	

**90th Percentile Media Concentrations and Risks from Application of Fertilizer Products  
Nickel (Adult)**

Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>	
Cleveland, OH	Boron	0.00244	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	
	Gypsum Products	0.37000	0.00481	0.00443	0.01620	0.00838	0.00227	0.00000	0.00001	0.00004	0.00002	0.00003	0.00051	0.00050	0.00000	0.00000	0.00110	
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	9.20000	0.14100	0.12600	0.30300	0.18900	0.05050	0.00002	0.00030	0.00050	0.00030	0.00040	0.00710	0.00900	0.00000	0.00000	0.01730	
	Micronutrients	0.01620	0.00020	0.00018	0.00052	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05330	0.00069	0.00064	0.00235	0.00103	0.00029	0.00000	0.00000	0.00001	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015	
	NPK as N	1.27000	0.01630	0.01500	0.04940	0.02270	0.00666	0.00000	0.00005	0.00010	0.00007	0.00007	0.00100	0.00100	0.00000	0.00000	0.00224	
	NPK for P2O5	0.23700	0.00335	0.00315	0.01060	0.00695	0.00220	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085	
	P2O5 - 1	0.27500	0.00383	0.00352	0.01190	0.00713	0.00200	0.00000	0.00001	0.00003	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00087	
	Potash	0.01690	0.00021	0.00019	0.00062	0.00029	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.11000	0.01280	0.01180	0.02330	0.00915	0.00297	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.26500	0.00346	0.00320	0.01290	0.01140	0.00320	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107	
	Fresno, CA	Boron	0.00252	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.38500	0.00459	0.00444	0.01650	0.00869	0.00233	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00051	0.00000	0.00000	0.00109
Iron		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Liming Materials		9.49000	0.13500	0.12700	0.31500	0.17800	0.05270	0.00001	0.00030	0.00050	0.00030	0.00050	0.00800	0.00900	0.00000	0.00000	0.01830	
Micronutrients		0.01720	0.00019	0.00019	0.00054	0.00025	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
Mn		0.05430	0.00064	0.00062	0.00243	0.00107	0.00031	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015	
NPK as N		1.38000	0.01580	0.01530	0.05220	0.02260	0.00694	0.00000	0.00005	0.00009	0.00006	0.00008	0.00100	0.00100	0.00000	0.00000	0.00223	
NPK for P2O5		0.25300	0.00315	0.00306	0.01130	0.00728	0.00230	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
P2O5 - 1		0.28900	0.00351	0.00340	0.01270	0.00703	0.00205	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00041	0.00000	0.00000	0.00087	
Potash		0.01800	0.00020	0.00019	0.00066	0.00030	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
S as Nutrient		1.15000	0.01230	0.01170	0.02410	0.00885	0.00299	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Zinc		0.29500	0.00320	0.00311	0.01420	0.01200	0.00319	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00060	0.00000	0.00000	0.00117	
Grand Island, NE		Boron	0.00254	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.38300	0.00451	0.00443	0.01650	0.00841	0.00233	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	9.28000	0.13200	0.12800	0.32000	0.18000	0.05050	0.00002	0.00030	0.00050	0.00030	0.00050	0.00710	0.00900	0.00000	0.00000	0.01740	
	Micronutrients	0.01680	0.00018	0.00018	0.00053	0.00025	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05410	0.00063	0.00061	0.00244	0.00103	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015	
	NPK as N	1.37000	0.01500	0.01470	0.05160	0.02220	0.00677	0.00000	0.00005	0.00009	0.00006	0.00008	0.00100	0.00100	0.00000	0.00000	0.00223	
	NPK for P2O5	0.24700	0.00313	0.00309	0.01110	0.00704	0.00229	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	P2O5 - 1	0.29200	0.00351	0.00343	0.01270	0.00716	0.00204	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	Potash	0.01770	0.00019	0.00019	0.00065	0.00029	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.15000	0.01170	0.01150	0.02350	0.00843	0.00290	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.28400	0.00310	0.00306	0.01440	0.01180	0.00314	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00051	0.00000	0.00000	0.00108	

**90th Percentile Media Concentrations and Risks from Application of Fertilizer Products  
Nickel (Adult)**

Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>
Harrisburg, PA	Boron	0.00242	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
	Gypsum Products	0.36800	0.00444	0.00429	0.01610	0.00794	0.00223	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liming Materials	8.63000	0.12300	0.11700	0.31400	0.16400	0.04840	0.00002	0.00030	0.00050	0.00030	0.00041	0.00700	0.00900	0.00000	0.00000	0.01721
	Micronutrients	0.01590	0.00018	0.00017	0.00050	0.00023	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003
	Mn	0.05210	0.00062	0.00060	0.00233	0.00100	0.00029	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014
	NPK as N	1.25000	0.01460	0.01410	0.04950	0.02200	0.00635	0.00000	0.00005	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222
	NPK for P2O5	0.24200	0.00307	0.00297	0.01060	0.00672	0.00209	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085
	P2O5 - 1	0.27100	0.00349	0.00336	0.01170	0.00678	0.00191	0.00000	0.00001	0.00002	0.00002	0.00002	0.00031	0.00040	0.00000	0.00000	0.00077
	Potash	0.01670	0.00019	0.00018	0.00063	0.00027	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004
	S as Nutrient	1.10000	0.01190	0.01140	0.02360	0.00821	0.00283	0.00000	0.00004	0.00005	0.00003	0.00003	0.00040	0.00060	0.00000	0.00000	0.00111
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	0.26100	0.00309	0.00298	0.01300	0.01020	0.00300	0.00000	0.00001	0.00002	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00106
	Hartford, CT	Boron	0.00238	0.00003	0.00003	0.00012	0.00006	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Gypsum Products		0.35300	0.00427	0.00414	0.01530	0.00782	0.00215	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
Iron		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liming Materials		9.00000	0.11900	0.11400	0.30200	0.16400	0.04460	0.00002	0.00030	0.00040	0.00030	0.00040	0.00700	0.00800	0.00000	0.00000	0.01610
Micronutrients		0.01530	0.00017	0.00017	0.00050	0.00023	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00000	0.00000	0.00002
Mn		0.05110	0.00060	0.00058	0.00225	0.00095	0.00028	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014
NPK as N		1.24000	0.01410	0.01360	0.04740	0.02070	0.00601	0.00000	0.00005	0.00008	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00221
NPK for P2O5		0.23200	0.00289	0.00284	0.01030	0.00658	0.00204	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085
P2O5 - 1		0.26900	0.00328	0.00319	0.01140	0.00649	0.00182	0.00000	0.00001	0.00002	0.00002	0.00002	0.00030	0.00040	0.00000	0.00000	0.00076
Potash		0.01610	0.00019	0.00018	0.00061	0.00026	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004
S as Nutrient		1.05000	0.01150	0.01110	0.02240	0.00806	0.00272	0.00000	0.00004	0.00004	0.00003	0.00003	0.00040	0.00060	0.00000	0.00000	0.00110
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc		0.25200	0.00293	0.00284	0.01210	0.01020	0.00287	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00050	0.00000	0.00000	0.00096
Houston, TX		Boron	0.00236	0.00003	0.00003	0.00012	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	Gypsum Products	0.35400	0.00424	0.00414	0.01540	0.00779	0.00217	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liming Materials	9.09000	0.12300	0.11700	0.29200	0.15800	0.04600	0.00005	0.00030	0.00040	0.00030	0.00040	0.00700	0.00800	0.00000	0.00000	0.01610
	Micronutrients	0.01550	0.00017	0.00017	0.00049	0.00022	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00000	0.00000	0.00002
	Mn	0.05080	0.00058	0.00057	0.00221	0.00097	0.00028	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014
	NPK as N	1.23000	0.01380	0.01350	0.04780	0.02110	0.00603	0.00001	0.00005	0.00008	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00221
	NPK for P2O5	0.23500	0.00290	0.00281	0.01020	0.00643	0.00203	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085
	P2O5 - 1	0.26500	0.00322	0.00316	0.01120	0.00641	0.00184	0.00000	0.00001	0.00002	0.00002	0.00002	0.00030	0.00040	0.00000	0.00000	0.00076
	Potash	0.01600	0.00018	0.00017	0.00061	0.00027	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004
	S as Nutrient	1.07000	0.01090	0.01060	0.02270	0.00799	0.00269	0.00001	0.00004	0.00005	0.00002	0.00002	0.00040	0.00060	0.00000	0.00000	0.00109
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Zinc	0.25700	0.00293	0.00288	0.01270	0.01020	0.00278	0.00000	0.00001	0.00002	0.00002	0.00002	0.00041	0.00050	0.00000	0.00000	0.00097

**90th Percentile Media Concentrations and Risks from Application of Fertilizer Products  
Nickel (Adult)**

Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>	
Huntington, WV	Boron	0.00242	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	
	Gypsum Products	0.36700	0.00453	0.00435	0.01600	0.00801	0.00225	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108	
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	9.10000	0.13700	0.12900	0.31600	0.16600	0.04790	0.00002	0.00030	0.00050	0.00030	0.00041	0.00700	0.00900	0.00000	0.00000	0.01721	
	Micronutrients	0.01600	0.00019	0.00018	0.00051	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05270	0.00064	0.00061	0.00229	0.00101	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014	
	NPK as N	1.27000	0.01500	0.01430	0.04880	0.02170	0.00628	0.00000	0.00005	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
	NPK for P2O5	0.24000	0.00311	0.00301	0.01080	0.00673	0.00210	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085	
	P2O5 - 1	0.27500	0.00351	0.00337	0.01160	0.00697	0.00198	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	Potash	0.01660	0.00020	0.00019	0.00062	0.00027	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.08000	0.01170	0.01130	0.02350	0.00852	0.00290	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.26000	0.00314	0.00300	0.01270	0.01030	0.00309	0.00000	0.00001	0.00002	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00106	
	Las Vegas, NV	Boron	0.00249	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.38900	0.00444	0.00438	0.01660	0.00862	0.00232	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liming Materials		9.27000	0.12700	0.12300	0.31500	0.17200	0.05060	0.00000	0.00030	0.00041	0.00030	0.00050	0.00800	0.00900	0.00000	0.00000	0.01821	
Micronutrients		0.01700	0.00018	0.00018	0.00054	0.00025	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
Mn		0.05430	0.00062	0.00061	0.00243	0.00105	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00014		
NPK as N		1.39000	0.01530	0.01500	0.05220	0.02250	0.00677	0.00000	0.00005	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
NPK for P2O5		0.25200	0.00309	0.00305	0.01140	0.00717	0.00222	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
P2O5 - 1		0.29000	0.00342	0.00335	0.01260	0.00697	0.00202	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
Potash		0.01800	0.00020	0.00019	0.00067	0.00030	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
S as Nutrient		1.18000	0.01150	0.01130	0.02410	0.00853	0.00288	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Zinc		0.29300	0.00302	0.00298	0.01420	0.01110	0.00310	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00060	0.00000	0.00000	0.00117	
Los Angeles, CA		Boron	0.00247	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.38500	0.00473	0.00453	0.01640	0.00856	0.00232	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00051	0.00000	0.00000	0.00109
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liming Materials	9.36000	0.13500	0.12800	0.31200	0.18100	0.05110	0.00000	0.00030	0.00050	0.00030	0.00050	0.00710	0.00900	0.00000	0.00000	0.01740	
	Micronutrients	0.01670	0.00019	0.00018	0.00053	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05360	0.00065	0.00062	0.00240	0.00104	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00015		
	NPK as N	1.33000	0.01560	0.01500	0.05070	0.02240	0.00694	0.00000	0.00005	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
	NPK for P2O5	0.24800	0.00318	0.00307	0.01100	0.00714	0.00229	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	P2O5 - 1	0.28600	0.00355	0.00342	0.01230	0.00698	0.00202	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00041	0.00000	0.00000	0.00087	
	Potash	0.01760	0.00020	0.00019	0.00064	0.00029	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.15000	0.01210	0.01140	0.02320	0.00870	0.00289	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.28400	0.00318	0.00307	0.01390	0.01130	0.00324	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107	

**90th Percentile Media Concentrations and Risks from Application of Fertilizer Products  
Nickel (Adult)**

Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>	
Memphis, TN	Boron	0.00231	0.00003	0.00003	0.00012	0.00006	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	
	Gypsum Products	0.35100	0.00448	0.00423	0.01500	0.00801	0.00213	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108	
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	8.30000	0.12600	0.11900	0.29300	0.16800	0.04580	0.00004	0.00030	0.00050	0.00030	0.00040	0.00700	0.00800	0.00000	0.00000	0.01620	
	Micronutrients	0.01510	0.00018	0.00017	0.00049	0.00023	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00000	0.00000	0.00002	
	Mn	0.05030	0.00063	0.00059	0.00214	0.00095	0.00028	0.00000	0.00000	0.00000	0.00000	0.00000	0.00006	0.00006	0.00000	0.00000	0.00013	
	NPK as N	1.21000	0.01470	0.01370	0.04540	0.02110	0.00618	0.00001	0.00004	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
	NPK for P2O5	0.23100	0.00306	0.00288	0.00983	0.00654	0.00201	0.00000	0.00001	0.00002	0.00001	0.00002	0.00031	0.00040	0.00000	0.00000	0.00076	
	P2O5 - 1	0.25900	0.00352	0.00334	0.01090	0.00656	0.00185	0.00000	0.00001	0.00002	0.00002	0.00002	0.00030	0.00040	0.00000	0.00000	0.00076	
	Potash	0.01570	0.00019	0.00018	0.00058	0.00026	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.02000	0.01130	0.01070	0.02160	0.00846	0.00287	0.00000	0.00004	0.00005	0.00003	0.00003	0.00040	0.00060	0.00000	0.00000	0.00111	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.25700	0.00315	0.00283	0.01220	0.01040	0.00305	0.00000	0.00001	0.00002	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00106	
	Miami, FL	Boron	0.00228	0.00003	0.00003	0.00012	0.00006	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.33500	0.00393	0.00381	0.01440	0.00684	0.00193	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liming Materials		8.71000	0.08460	0.08360	0.26700	0.14400	0.03990	0.00001	0.00030	0.00040	0.00030	0.00040	0.00610	0.00800	0.00000	0.00000	0.01520	
Micronutrients		0.01330	0.00014	0.00014	0.00046	0.00020	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00000	0.00000	0.00002	
Mn		0.04650	0.00053	0.00052	0.00203	0.00086	0.00025	0.00000	0.00000	0.00000	0.00000	0.00000	0.00006	0.00005	0.00000	0.00000	0.00012	
NPK as N		1.11000	0.01230	0.01210	0.04160	0.01790	0.00530	0.00000	0.00004	0.00007	0.00005	0.00006	0.00100	0.00100	0.00000	0.00000	0.00218	
NPK for P2O5		0.23000	0.00278	0.00272	0.00997	0.00608	0.00179	0.00000	0.00001	0.00002	0.00001	0.00002	0.00030	0.00030	0.00000	0.00000	0.00065	
P2O5 - 1		0.25000	0.00293	0.00288	0.01080	0.00552	0.00169	0.00000	0.00001	0.00002	0.00001	0.00002	0.00030	0.00040	0.00000	0.00000	0.00075	
Potash		0.01490	0.00017	0.00016	0.00056	0.00023	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00001	0.00000	0.00000	0.00003	
S as Nutrient		0.93700	0.00878	0.00871	0.02070	0.00722	0.00236	0.00000	0.00003	0.00004	0.00002	0.00002	0.00040	0.00050	0.00000	0.00000	0.00098	
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Zinc		0.25000	0.00285	0.00280	0.01100	0.00925	0.00251	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00050	0.00000	0.00000	0.00095	
Minneapolis, MN		Boron	0.00249	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.38100	0.00480	0.00453	0.01610	0.00826	0.00226	0.00000	0.00001	0.00004	0.00002	0.00003	0.00050	0.00051	0.00000	0.00000	0.00110
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liming Materials	8.97000	0.13400	0.12400	0.32600	0.18400	0.05070	0.00002	0.00030	0.00050	0.00030	0.00050	0.00800	0.00900	0.00000	0.00000	0.01830	
	Micronutrients	0.01650	0.00019	0.00018	0.00053	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05320	0.00066	0.00062	0.00237	0.00107	0.00031	0.00000	0.00000	0.00001	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015	
	NPK as N	1.30000	0.01610	0.01520	0.05180	0.02300	0.00689	0.00000	0.00005	0.00010	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00223	
	NPK for P2O5	0.25100	0.00333	0.00314	0.01090	0.00750	0.00225	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	P2O5 - 1	0.28200	0.00377	0.00354	0.01220	0.00714	0.00203	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	Potash	0.01760	0.00021	0.00019	0.00064	0.00029	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.13000	0.01290	0.01180	0.02370	0.00930	0.00306	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.27700	0.00333	0.00312	0.01390	0.01180	0.00336	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107	



**90th Percentile Media Concentrations and Risks from Application of Fertilizer Products  
Nickel (Adult)**

Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>	
Philadelphia, PA	Boron	0.00239	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	
	Gypsum Products	0.35900	0.00437	0.00423	0.01550	0.00798	0.00219	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108	
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	8.52000	0.12500	0.12100	0.30200	0.15900	0.04690	0.00002	0.00030	0.00041	0.00030	0.00040	0.00700	0.00800	0.00000	0.00000	0.01611	
	Micronutrients	0.01570	0.00018	0.00017	0.00050	0.00023	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05160	0.00060	0.00058	0.00224	0.00100	0.00028	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014	
	NPK as N	1.24000	0.01450	0.01400	0.04780	0.02090	0.00617	0.00000	0.00005	0.00008	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00221	
	NPK for P2O5	0.24000	0.00305	0.00296	0.01050	0.00654	0.00208	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085	
	P2O5 - 1	0.26900	0.00344	0.00331	0.01160	0.00670	0.00191	0.00000	0.00001	0.00002	0.00002	0.00002	0.00030	0.00040	0.00000	0.00000	0.00076	
	Potash	0.01610	0.00018	0.00018	0.00063	0.00027	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.07000	0.01130	0.01090	0.02210	0.00844	0.00278	0.00000	0.00004	0.00005	0.00003	0.00002	0.00040	0.00060	0.00000	0.00000	0.00110	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.25700	0.00309	0.00298	0.01300	0.01010	0.00300	0.00000	0.00001	0.00002	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00106	
	Phoenix, AZ	Boron	0.00252	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.38700	0.00452	0.00444	0.01650	0.00853	0.00232	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liming Materials		9.52000	0.13300	0.12800	0.32500	0.17800	0.05180	0.00000	0.00030	0.00050	0.00030	0.00050	0.00800	0.00900	0.00000	0.00000	0.01830	
Micronutrients		0.01680	0.00018	0.00018	0.00053	0.00025	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
Mn		0.05470	0.00063	0.00062	0.00241	0.00107	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015	
NPK as N		1.39000	0.01540	0.01500	0.05260	0.02280	0.00691	0.00000	0.00005	0.00009	0.00007	0.00007	0.00100	0.00100	0.00000	0.00000	0.00223	
NPK for P2O5		0.25800	0.00309	0.00304	0.01130	0.00730	0.00232	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
P2O5 - 1		0.29300	0.00346	0.00338	0.01250	0.00715	0.00203	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
Potash		0.01800	0.00020	0.00019	0.00067	0.00030	0.00009	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
S as Nutrient		1.19000	0.01190	0.01170	0.02430	0.00861	0.00297	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Zinc		0.28900	0.00312	0.00307	0.01330	0.01120	0.00299	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107	
Portland, ME		Boron	0.00229	0.00003	0.00003	0.00012	0.00006	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.34400	0.00445	0.00422	0.01480	0.00759	0.00211	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liming Materials	8.77000	0.13500	0.12300	0.29400	0.15900	0.04350	0.00001	0.00030	0.00050	0.00030	0.00040	0.00700	0.00800	0.00000	0.00000	0.01620	
	Micronutrients	0.01480	0.00017	0.00016	0.00047	0.00022	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00000	0.00000	0.00002	
	Mn	0.04890	0.00061	0.00057	0.00216	0.00096	0.00027	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014	
	NPK as N	1.18000	0.01460	0.01370	0.04570	0.02040	0.00609	0.00000	0.00004	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
	NPK for P2O5	0.22500	0.00301	0.00287	0.00981	0.00630	0.00198	0.00000	0.00001	0.00002	0.00001	0.00002	0.00030	0.00040	0.00000	0.00000	0.00075	
	P2O5 - 1	0.25500	0.00340	0.00322	0.01100	0.00650	0.00191	0.00000	0.00001	0.00002	0.00002	0.00002	0.00030	0.00040	0.00000	0.00000	0.00076	
	Potash	0.01540	0.00019	0.00018	0.00059	0.00026	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.01000	0.01120	0.01050	0.02230	0.00800	0.00275	0.00000	0.00004	0.00005	0.00003	0.00002	0.00040	0.00060	0.00000	0.00000	0.00110	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.24300	0.00300	0.00285	0.01170	0.00962	0.00284	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00050	0.00000	0.00000	0.00096	

**90th Percentile Media Concentrations and Risks from Application of Fertilizer Products  
Nickel (Adult)**

Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>	
Raleigh-Durham, NC	Boron	0.00233	0.00003	0.00003	0.00012	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	
	Gypsum Products	0.35800	0.00466	0.00435	0.01540	0.00782	0.00221	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108	
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	8.80000	0.13400	0.12500	0.30200	0.18100	0.04690	0.00003	0.00030	0.00050	0.00030	0.00040	0.00710	0.00810	0.00000	0.00000	0.01640	
	Micronutrients	0.01560	0.00019	0.00017	0.00050	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05020	0.00065	0.00060	0.00225	0.00102	0.00028	0.00000	0.00000	0.00001	0.00000	0.00000	0.00007	0.00007	0.00006	0.00000	0.00014	
	NPK as N	1.21000	0.01510	0.01400	0.04670	0.02130	0.00612	0.00000	0.00005	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
	NPK for P2O5	0.22800	0.00325	0.00298	0.01020	0.00674	0.00205	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085	
	P2O5 - 1	0.26500	0.00372	0.00342	0.01120	0.00683	0.00194	0.00000	0.00001	0.00003	0.00002	0.00002	0.00031	0.00040	0.00000	0.00000	0.00078	
	Potash	0.01610	0.00020	0.00019	0.00061	0.00028	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.06000	0.01230	0.01130	0.02200	0.00863	0.00287	0.00000	0.00004	0.00005	0.00003	0.00003	0.00040	0.00060	0.00000	0.00000	0.00111	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.25200	0.00320	0.00294	0.01270	0.01090	0.00323	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107	
	Salem, OR	Boron	0.00239	0.00003	0.00003	0.00012	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.36000	0.00433	0.00420	0.01550	0.00790	0.00217	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liming Materials		8.85000	0.12900	0.12100	0.28400	0.16300	0.04590	0.00001	0.00030	0.00040	0.00030	0.00040	0.00700	0.00810	0.00000	0.00000	0.01620	
Micronutrients		0.01570	0.00017	0.00017	0.00050	0.00023	0.00006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
Mn		0.05070	0.00059	0.00058	0.00228	0.00101	0.00028	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014	
NPK as N		1.22000	0.01410	0.01370	0.04740	0.02140	0.00622	0.00000	0.00005	0.00008	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00221	
NPK for P2O5		0.23800	0.00301	0.00291	0.01040	0.00655	0.00203	0.00000	0.00001	0.00002	0.00001	0.00002	0.00040	0.00040	0.00000	0.00000	0.00085	
P2O5 - 1		0.27200	0.00341	0.00328	0.01130	0.00642	0.00188	0.00000	0.00001	0.00002	0.00002	0.00002	0.00030	0.00040	0.00000	0.00000	0.00076	
Potash		0.01620	0.00018	0.00018	0.00062	0.00027	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
S as Nutrient		1.06000	0.01120	0.01090	0.02270	0.00804	0.00275	0.00000	0.00004	0.00004	0.00003	0.00003	0.00040	0.00051	0.00000	0.00000	0.00101	
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Zinc		0.25800	0.00300	0.00290	0.01220	0.01000	0.00293	0.00000	0.00001	0.00002	0.00002	0.00002	0.00041	0.00050	0.00000	0.00000	0.00097	
Salt Lake City, UT		Boron	0.00258	0.00003	0.00003	0.00014	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.39300	0.00480	0.00459	0.01670	0.00860	0.00236	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00060	0.00000	0.00000	0.00118
		Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Liming Materials	9.28000	0.13700	0.12800	0.31600	0.18500	0.05260	0.00000	0.00030	0.00050	0.00030	0.00050	0.00800	0.00910	0.00000	0.00000	0.01840	
	Micronutrients	0.01710	0.00020	0.00019	0.00054	0.00026	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05560	0.00068	0.00065	0.00248	0.00107	0.00031	0.00000	0.00000	0.00001	0.00000	0.00000	0.00007	0.00007	0.00000	0.00000	0.00015	
	NPK as N	1.39000	0.01640	0.01560	0.05300	0.02350	0.00686	0.00000	0.00005	0.00010	0.00007	0.00008	0.00200	0.00100	0.00000	0.00000	0.00325	
	NPK for P2O5	0.25800	0.00340	0.00323	0.01170	0.00760	0.00234	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	P2O5 - 1	0.29700	0.00369	0.00350	0.01270	0.00736	0.00216	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00050	0.00000	0.00000	0.00096	
	Potash	0.01860	0.00021	0.00020	0.00067	0.00031	0.00009	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.18000	0.01300	0.01240	0.02410	0.00899	0.00305	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00061	0.00000	0.00000	0.00122	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.30400	0.00335	0.00319	0.01410	0.01130	0.00327	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00060	0.00000	0.00000	0.00117	

**90th Percentile Media Concentrations and Risks from Application of Fertilizer Products  
Nickel (Adult)**

Climate Region	Product	soil conc (mg/kg)	fruit conc (mg/kg-DW)	above-ground vegetable conc (mg/kg-DW)	below-ground veg conc (mg/kg)	beef conc (mg/kg)	milk conc (mg/kg)	fish conc (mg/kg)	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined <sup>1</sup>	
San Francisco, CA	Boron	0.00246	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	
	Gypsum Products	0.38600	0.00454	0.00441	0.01600	0.00841	0.00230	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00050	0.00000	0.00000	0.00108	
	Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Liming Materials	9.14000	0.13100	0.12400	0.31300	0.18000	0.05170	0.00001	0.00030	0.00050	0.00030	0.00050	0.00700	0.00900	0.00000	0.00000	0.01730	
	Micronutrients	0.01670	0.00019	0.00018	0.00053	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
	Mn	0.05340	0.00063	0.00062	0.00241	0.00107	0.00029	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014	
	NPK as N	1.34000	0.01540	0.01490	0.05250	0.02200	0.00666	0.00000	0.00005	0.00009	0.00006	0.00007	0.00100	0.00100	0.00000	0.00000	0.00222	
	NPK for P2O5	0.24700	0.00306	0.00299	0.01100	0.00718	0.00221	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	P2O5 - 1	0.28700	0.00343	0.00334	0.01250	0.00682	0.00200	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
	Potash	0.01770	0.00020	0.00019	0.00064	0.00029	0.00008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
	S as Nutrient	1.14000	0.01200	0.01140	0.02380	0.00871	0.00293	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
	S as Ph	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Zinc	0.29200	0.00316	0.00305	0.01370	0.01090	0.00313	0.00000	0.00001	0.00003	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00107	
	Winnemucca, NV	Boron	0.00253	0.00003	0.00003	0.00013	0.00007	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
		Gypsum Products	0.38200	0.00437	0.00433	0.01640	0.00868	0.00235	0.00000	0.00001	0.00003	0.00002	0.00003	0.00050	0.00060	0.00000	0.00000	0.00118
Iron		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Liming Materials		9.79000	0.11500	0.11300	0.32400	0.17800	0.05180	0.00000	0.00030	0.00041	0.00030	0.00050	0.00800	0.00900	0.00000	0.00000	0.01821	
Micronutrients		0.01690	0.00018	0.00018	0.00053	0.00024	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00003	
Mn		0.05420	0.00062	0.00061	0.00243	0.00104	0.00030	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00006	0.00000	0.00000	0.00014	
NPK as N		1.36000	0.01500	0.01480	0.05310	0.02230	0.00675	0.00000	0.00005	0.00009	0.00006	0.00008	0.00100	0.00100	0.00000	0.00000	0.00223	
NPK for P2O5		0.25300	0.00298	0.00297	0.01120	0.00725	0.00225	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00040	0.00000	0.00000	0.00086	
P2O5 - 1		0.29500	0.00339	0.00337	0.01250	0.00704	0.00204	0.00000	0.00001	0.00002	0.00002	0.00002	0.00040	0.00041	0.00000	0.00000	0.00087	
Potash		0.01770	0.00019	0.00019	0.00066	0.00029	0.00009	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00002	0.00000	0.00000	0.00004	
S as Nutrient		1.18000	0.01170	0.01160	0.02380	0.00851	0.00294	0.00000	0.00004	0.00005	0.00003	0.00003	0.00050	0.00060	0.00000	0.00000	0.00121	
S as Ph		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Zinc		0.29100	0.00298	0.00296	0.01420	0.01100	0.00299	0.00000	0.00001	0.00002	0.00002	0.00002	0.00050	0.00050	0.00000	0.00000	0.00106	

<sup>1</sup> All Indirect Pathways Combined includes Fruit, Vegetable, Below-ground Vegetable, Beef, and Milk Ingestion.

Numbers less than 0.00001 appear as a default of 0.00000.