

US EPA ARCHIVE DOCUMENT

95th Percentile Risks from Application of Fertilizer Products
Vanadium (Child)

Climate Region	Product	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined ¹
Seattle, WA	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00800	0.00010	0.00020	0	0.00300	0.01000	0	NA	0.01330
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00060	0.00200	0	0.02000	0.10000	0	NA	0.12260
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00010	0.00040	0	0.00500	0.02000	0	NA	0.02550
	NPK for P2O5	0.00400	0.00006	0.00010	0	0.00200	0.00500	0	NA	0.00716
	P2O5 - 1	0.00600	0.00007	0.00020	0	0.00200	0.00700	0	NA	0.00927
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00300	0.00003	0.00009	0	0.00100	0.00400	0	NA	0.00512
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014
	Albuquerque, NM	Boron	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA
Gypsum Products		0.00900	0.00004	0.00010	0	0.00300	0.00900	0	NA	0.01214
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.05000	0.00020	0.00060	0	0.02000	0.08050	0	NA	0.10130
Micronutrients		0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.01000	0.00005	0.00010	0	0.00500	0.01000	0	NA	0.01515
NPK for P2O5		0.00500	0.00002	0.00006	0	0.00200	0.00405	0	NA	0.00613
P2O5 - 1		0.00600	0.00003	0.00007	0	0.00200	0.00700	0	NA	0.00910
Potash		0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
S as Nutrient		0.00300	0.00001	0.00003	0	0.00100	0.00300	0	NA	0.00404
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00008	0.00000	0.00000	0	0.00004	0.00009	0	NA	0.00013
Atlanta, GA		Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
	Gypsum Products	0.00800	0.00008	0.00020	0	0.00300	0.00900	0	NA	0.01228
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.04050	0.00040	0.00100	0	0.02000	0.09000	0	NA	0.11140
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00010	0.00030	0	0.00500	0.01000	0	NA	0.01540
	NPK for P2O5	0.00400	0.00005	0.00010	0	0.00200	0.00500	0	NA	0.00715
	P2O5 - 1	0.00500	0.00006	0.00020	0	0.00200	0.00700	0	NA	0.00926
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00200	0.00003	0.00007	0	0.00100	0.00300	0	NA	0.00410
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014

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Vanadium (Child)

Climate Region	Product	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined ¹
Bismarck, ND	Boron	0.00004	0.00000	0.00000	0	0.00001	0.00002	0	NA	0.00003
	Gypsum Products	0.00900	0.00002	0.00004	0	0.00300	0.00800	0	NA	0.01106
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00009	0.00030	0	0.02000	0.08000	0	NA	0.10039
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00002	0.00006	0	0.00400	0.01000	0	NA	0.01408
	NPK for P2O5	0.00500	0.00001	0.00003	0	0.00200	0.00400	0	NA	0.00604
	P2O5 - 1	0.00600	0.00001	0.00003	0	0.00200	0.00600	0	NA	0.00804
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	S as Nutrient	0.00300	0.00001	0.00001	0	0.00100	0.00300	0	NA	0.00402
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00003	0.00009	0	NA	0.00012
Boise, ID	Boron	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00900	0.00006	0.00010	0	0.00300	0.00900	0	NA	0.01216
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00030	0.00100	0	0.02000	0.09000	0	NA	0.11130
	Micronutrients	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00008	0.00020	0	0.00500	0.01050	0	NA	0.01578
	NPK for P2O5	0.00500	0.00003	0.00009	0	0.00200	0.00500	0	NA	0.00712
	P2O5 - 1	0.00600	0.00004	0.00010	0	0.00200	0.00700	0	NA	0.00914
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00300	0.00002	0.00005	0	0.00100	0.00400	0	NA	0.00507
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014
Boulder, CO	Boron	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00900	0.00007	0.00020	0	0.00300	0.00900	0	NA	0.01227
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00030	0.00100	0	0.02000	0.09000	0	NA	0.11130
	Micronutrients	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00008	0.00020	0	0.00500	0.01000	0	NA	0.01528
	NPK for P2O5	0.00500	0.00004	0.00009	0	0.00200	0.00500	0	NA	0.00713
	P2O5 - 1	0.00600	0.00004	0.00010	0	0.00200	0.00700	0	NA	0.00914
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00300	0.00002	0.00005	0	0.00100	0.00400	0	NA	0.00507
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014

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Casper, WY	Boron	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00900	0.00002	0.00005	0	0.00300	0.00800	0	NA	0.01107
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00010	0.00031	0	0.02000	0.08000	0	NA	0.10041
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00003	0.00007	0	0.00500	0.01000	0	NA	0.01510
	NPK for P2O5	0.00500	0.00001	0.00003	0	0.00200	0.00400	0	NA	0.00604
	P2O5 - 1	0.00600	0.00001	0.00004	0	0.00200	0.00600	0	NA	0.00805
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	S as Nutrient	0.00300	0.00001	0.00002	0	0.00100	0.00300	0	NA	0.00403
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00003	0.00009	0	NA	0.00012
	Charleston, SC	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
Gypsum Products		0.00800	0.00006	0.00020	0	0.00300	0.00800	0	NA	0.01126
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.04050	0.00030	0.00100	0	0.02000	0.08000	0	NA	0.10130
Micronutrients		0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.01000	0.00009	0.00020	0	0.00500	0.01000	0	NA	0.01529
NPK for P2O5		0.00400	0.00004	0.00009	0	0.00200	0.00400	0	NA	0.00613
P2O5 - 1		0.00500	0.00004	0.00010	0	0.00200	0.00600	0	NA	0.00814
Potash		0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
S as Nutrient		0.00200	0.00002	0.00005	0	0.00100	0.00300	0	NA	0.00407
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00007	0.00000	0.00000	0	0.00003	0.00010	0	NA	0.00013
Chicago, IL		Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
	Gypsum Products	0.00800	0.00010	0.00030	0	0.00300	0.01000	0	NA	0.01340
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00060	0.00200	0	0.02000	0.10000	0	NA	0.12260
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00020	0.00040	0	0.00500	0.02000	0	NA	0.02560
	NPK for P2O5	0.00500	0.00007	0.00020	0	0.00200	0.00600	0	NA	0.00827
	P2O5 - 1	0.00600	0.00008	0.00020	0	0.00200	0.00800	0	NA	0.01028
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00300	0.00003	0.00009	0	0.00100	0.00400	0	NA	0.00512
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014

95th Percentile Risks from Application of Fertilizer Products
Vanadium (Child)

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Cleveland, OH	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00800	0.00010	0.00030	0	0.00400	0.01000	0	NA	0.01440
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00070	0.00200	0	0.02000	0.10000	0	NA	0.12270
	Micronutrients	0.00003	0.00000	0.00000	0	0.00002	0.00004	0	NA	0.00006
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00011	0.00040	0	0.00500	0.02000	0	NA	0.02551
	NPK for P2O5	0.00405	0.00007	0.00020	0	0.00200	0.00505	0	NA	0.00732
	P2O5 - 1	0.00600	0.00008	0.00020	0	0.00300	0.00800	0	NA	0.01128
	Potash	0.00004	0.00000	0.00000	0	0.00002	0.00004	0	NA	0.00006
	S as Nutrient	0.00300	0.00003	0.00010	0	0.00100	0.00400	0	NA	0.00513
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014
	Fresno, CA	Boron	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA
Gypsum Products		0.00900	0.00005	0.00010	0	0.00300	0.00900	0	NA	0.01215
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.05000	0.00030	0.00080	0	0.02000	0.08000	0	NA	0.10110
Micronutrients		0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.01000	0.00006	0.00020	0	0.00500	0.01000	0	NA	0.01526
NPK for P2O5		0.00500	0.00003	0.00007	0	0.00200	0.00500	0	NA	0.00710
P2O5 - 1		0.00600	0.00003	0.00009	0	0.00200	0.00700	0	NA	0.00912
Potash		0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
S as Nutrient		0.00300	0.00001	0.00004	0	0.00100	0.00400	0	NA	0.00505
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00008	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014
Grand Island, NE		Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
	Gypsum Products	0.00900	0.00002	0.00006	0	0.00300	0.00800	0	NA	0.01108
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00010	0.00040	0	0.02000	0.08000	0	NA	0.10050
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00003	0.00008	0	0.00500	0.01000	0	NA	0.01511
	NPK for P2O5	0.00500	0.00001	0.00004	0	0.00200	0.00400	0	NA	0.00605
	P2O5 - 1	0.00600	0.00001	0.00004	0	0.00200	0.00600	0	NA	0.00805
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	S as Nutrient	0.00300	0.00001	0.00002	0	0.00100	0.00300	0	NA	0.00403
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00003	0.00009	0	NA	0.00012

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Vanadium (Child)

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Harrisburg, PA	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00800	0.00005	0.00010	0	0.00300	0.00800	0	NA	0.01115
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00030	0.00080	0	0.02000	0.08000	0	NA	0.10110
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00006	0.00020	0	0.00500	0.01000	0	NA	0.01526
	NPK for P2O5	0.00500	0.00003	0.00007	0	0.00200	0.00400	0	NA	0.00610
	P2O5 - 1	0.00600	0.00003	0.00008	0	0.00200	0.00600	0	NA	0.00811
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	S as Nutrient	0.00300	0.00001	0.00004	0	0.00100	0.00300	0	NA	0.00405
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00003	0.00009	0	NA	0.00012
	Hartford, CT	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
Gypsum Products		0.00800	0.00004	0.00009	0	0.00300	0.00800	0	NA	0.01113
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.05000	0.00020	0.00060	0	0.02000	0.07050	0	NA	0.09130
Micronutrients		0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.01000	0.00005	0.00010	0	0.00400	0.01000	0	NA	0.01415
NPK for P2O5		0.00400	0.00002	0.00006	0	0.00200	0.00400	0	NA	0.00608
P2O5 - 1		0.00500	0.00002	0.00006	0	0.00200	0.00600	0	NA	0.00808
Potash		0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
S as Nutrient		0.00300	0.00001	0.00003	0	0.00100	0.00300	0	NA	0.00404
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00007	0.00000	0.00000	0	0.00003	0.00009	0	NA	0.00012
Houston, TX		Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
	Gypsum Products	0.00800	0.00003	0.00008	0	0.00300	0.00800	0	NA	0.01111
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00020	0.00050	0	0.02000	0.07000	0	NA	0.09070
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00004	0.00010	0	0.00400	0.01000	0	NA	0.01414
	NPK for P2O5	0.00400	0.00002	0.00005	0	0.00200	0.00400	0	NA	0.00607
	P2O5 - 1	0.00500	0.00002	0.00006	0	0.00200	0.00600	0	NA	0.00808
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	S as Nutrient	0.00300	0.00001	0.00003	0	0.00100	0.00300	0	NA	0.00404
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00003	0.00008	0	NA	0.00011

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Vanadium (Child)

Climate Region	Product	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined ¹
Huntington, WV	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00800	0.00006	0.00020	0	0.00300	0.00900	0	NA	0.01226
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00040	0.00100	0	0.02000	0.08050	0	NA	0.10190
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00008	0.00020	0	0.00500	0.01000	0	NA	0.01528
	NPK for P2O5	0.00405	0.00004	0.00009	0	0.00200	0.00500	0	NA	0.00713
	P2O5 - 1	0.00600	0.00004	0.00010	0	0.00200	0.00700	0	NA	0.00914
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	S as Nutrient	0.00300	0.00002	0.00006	0	0.00100	0.00400	0	NA	0.00508
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014
	Las Vegas, NV	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
Gypsum Products		0.00900	0.00002	0.00005	0	0.00300	0.00800	0	NA	0.01107
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.05000	0.00010	0.00030	0	0.02000	0.08000	0	NA	0.10040
Micronutrients		0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.01000	0.00003	0.00007	0	0.00500	0.01000	0	NA	0.01510
NPK for P2O5		0.00500	0.00001	0.00003	0	0.00200	0.00400	0	NA	0.00604
P2O5 - 1		0.00600	0.00001	0.00003	0	0.00200	0.00600	0	NA	0.00804
Potash		0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
S as Nutrient		0.00300	0.00001	0.00002	0	0.00100	0.00300	0	NA	0.00403
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00008	0.00000	0.00000	0	0.00003	0.00009	0	NA	0.00012
Los Angeles, CA		Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
	Gypsum Products	0.00900	0.00006	0.00011	0	0.00300	0.00900	0	NA	0.01217
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00030	0.00090	0	0.02000	0.09000	0	NA	0.11120
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00007	0.00020	0	0.00500	0.01000	0	NA	0.01527
	NPK for P2O5	0.00500	0.00003	0.00008	0	0.00200	0.00405	0	NA	0.00616
	P2O5 - 1	0.00600	0.00004	0.00010	0	0.00200	0.00700	0	NA	0.00914
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00300	0.00002	0.00005	0	0.00100	0.00400	0	NA	0.00507
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014

95th Percentile Risks from Application of Fertilizer Products
Vanadium (Child)

Climate Region	Product	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined ¹
Memphis, TN	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00800	0.00010	0.00020	0	0.00300	0.00900	0	NA	0.01230
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00050	0.00200	0	0.02000	0.09000	0	NA	0.11250
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00010	0.00030	0	0.00500	0.01050	0	NA	0.01590
	NPK for P2O5	0.00400	0.00005	0.00010	0	0.00200	0.00500	0	NA	0.00715
	P2O5 - 1	0.00500	0.00006	0.00020	0	0.00200	0.00700	0	NA	0.00926
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00200	0.00003	0.00007	0	0.00100	0.00400	0	NA	0.00510
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014
	Miami, FL	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00002	0	NA
Gypsum Products		0.00600	0.00002	0.00005	0	0.00300	0.00605	0	NA	0.00912
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.04000	0.00009	0.00030	0	0.02000	0.06050	0	NA	0.08089
Micronutrients		0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00905	0.00003	0.00007	0	0.00400	0.01000	0	NA	0.01410
NPK for P2O5		0.00400	0.00001	0.00003	0	0.00200	0.00300	0	NA	0.00504
P2O5 - 1		0.00500	0.00001	0.00004	0	0.00200	0.00500	0	NA	0.00705
Potash		0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
S as Nutrient		0.00200	0.00001	0.00001	0	0.00090	0.00300	0	NA	0.00392
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00007	0.00000	0.00000	0	0.00003	0.00007	0	NA	0.00010
Minneapolis, MN		Boron	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA
	Gypsum Products	0.00900	0.00009	0.00020	0	0.00300	0.01000	0	NA	0.01329
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00050	0.00200	0	0.02000	0.10000	0	NA	0.12250
	Micronutrients	0.00003	0.00000	0.00000	0	0.00002	0.00004	0	NA	0.00006
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00010	0.00030	0	0.00500	0.02000	0	NA	0.02540
	NPK for P2O5	0.00500	0.00005	0.00010	0	0.00200	0.00500	0	NA	0.00715
	P2O5 - 1	0.00600	0.00006	0.00020	0	0.00300	0.00700	0	NA	0.01026
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00300	0.00003	0.00008	0	0.00100	0.00400	0	NA	0.00511
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014

95th Percentile Risks from Application of Fertilizer Products
Vanadium (Child)

Climate Region	Product	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined ¹
Philadelphia, PA	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00800	0.00005	0.00010	0	0.00300	0.00800	0	NA	0.01115
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00020	0.00080	0	0.02000	0.08000	0	NA	0.10100
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00006	0.00020	0	0.00500	0.01000	0	NA	0.01526
	NPK for P2O5	0.00400	0.00003	0.00007	0	0.00200	0.00400	0	NA	0.00610
	P2O5 - 1	0.00500	0.00003	0.00008	0	0.00200	0.00600	0	NA	0.00811
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	S as Nutrient	0.00300	0.00001	0.00004	0	0.00100	0.00300	0	NA	0.00405
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00003	0.00009	0	NA	0.00012
	Phoenix, AZ	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
Gypsum Products		0.00900	0.00003	0.00006	0	0.00300	0.00800	0	NA	0.01109
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.05000	0.00010	0.00040	0	0.02000	0.08000	0	NA	0.10050
Micronutrients		0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.01000	0.00003	0.00008	0	0.00500	0.01000	0	NA	0.01511
NPK for P2O5		0.00500	0.00001	0.00003	0	0.00200	0.00400	0	NA	0.00604
P2O5 - 1		0.00600	0.00002	0.00004	0	0.00200	0.00600	0	NA	0.00806
Potash		0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
S as Nutrient		0.00300	0.00001	0.00002	0	0.00100	0.00300	0	NA	0.00403
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00008	0.00000	0.00000	0	0.00003	0.00009	0	NA	0.00012
Portland, ME		Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
	Gypsum Products	0.00800	0.00008	0.00020	0	0.00300	0.00805	0	NA	0.01133
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.04050	0.00040	0.00100	0	0.02000	0.09000	0	NA	0.11140
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00010	0.00030	0	0.00500	0.01000	0	NA	0.01540
	NPK for P2O5	0.00400	0.00004	0.00010	0	0.00200	0.00500	0	NA	0.00714
	P2O5 - 1	0.00500	0.00005	0.00010	0	0.00200	0.00700	0	NA	0.00915
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	S as Nutrient	0.00200	0.00002	0.00006	0	0.00100	0.00305	0	NA	0.00413
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00003	0.00010	0	NA	0.00013

95th Percentile Risks from Application of Fertilizer Products
Vanadium (Child)

Climate Region	Product	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined ¹
Raleigh-Durham, NC	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00800	0.00010	0.00020	0	0.00300	0.01000	0	NA	0.01330
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00050	0.00200	0	0.02000	0.10000	0	NA	0.12250
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00010	0.00040	0	0.00500	0.02000	0	NA	0.02550
	NPK for P2O5	0.00400	0.00005	0.00020	0	0.00200	0.00500	0	NA	0.00725
	P2O5 - 1	0.00500	0.00006	0.00020	0	0.00200	0.00700	0	NA	0.00926
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00205	0.00003	0.00009	0	0.00100	0.00400	0	NA	0.00512
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00007	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014
	Salem, OR	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
Gypsum Products		0.00800	0.00005	0.00010	0	0.00300	0.00800	0	NA	0.01115
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.05000	0.00030	0.00070	0	0.02000	0.08000	0	NA	0.10100
Micronutrients		0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.01000	0.00006	0.00010	0	0.00400	0.01000	0	NA	0.01416
NPK for P2O5		0.00400	0.00003	0.00006	0	0.00200	0.00400	0	NA	0.00609
P2O5 - 1		0.00500	0.00003	0.00008	0	0.00200	0.00600	0	NA	0.00811
Potash		0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
S as Nutrient		0.00300	0.00001	0.00004	0	0.00100	0.00300	0	NA	0.00405
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00007	0.00000	0.00000	0	0.00003	0.00009	0	NA	0.00012
Salt Lake City, UT		Boron	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA
	Gypsum Products	0.00900	0.00007	0.00020	0	0.00300	0.01000	0	NA	0.01327
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05050	0.00040	0.00100	0	0.02000	0.09000	0	NA	0.11140
	Micronutrients	0.00004	0.00000	0.00000	0	0.00002	0.00004	0	NA	0.00006
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00009	0.00020	0	0.00500	0.02000	0	NA	0.02529
	NPK for P2O5	0.00500	0.00004	0.00010	0	0.00200	0.00500	0	NA	0.00714
	P2O5 - 1	0.00600	0.00004	0.00010	0	0.00200	0.00700	0	NA	0.00914
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	S as Nutrient	0.00300	0.00002	0.00006	0	0.00100	0.00400	0	NA	0.00508
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00004	0.00010	0	NA	0.00014

95th Percentile Risks from Application of Fertilizer Products
Vanadium (Child)

Climate Region	Product	Soil Ingestion	Fruit Ingestion	Vegetable Ingestion	Below-ground Vegetable Ingestion	Beef Ingestion	Milk Ingestion	Fish Ingestion	Direct Inhalation	All Indirect Pathways Combined ¹
San Francisco, CA	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	Gypsum Products	0.00900	0.00004	0.00010	0	0.00300	0.00800	0	NA	0.01114
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.05000	0.00020	0.00060	0	0.02000	0.08000	0	NA	0.10080
	Micronutrients	0.00003	0.00000	0.00000	0	0.00001	0.00004	0	NA	0.00005
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.01000	0.00005	0.00010	0	0.00500	0.01000	0	NA	0.01515
	NPK for P2O5	0.00500	0.00002	0.00005	0	0.00200	0.00400	0	NA	0.00607
	P2O5 - 1	0.00600	0.00002	0.00006	0	0.00200	0.00600	0	NA	0.00808
	Potash	0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
	S as Nutrient	0.00300	0.00001	0.00003	0	0.00100	0.00300	0	NA	0.00404
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00008	0.00000	0.00000	0	0.00004	0.00009	0	NA	0.00013
	Winnemucca, NV	Boron	0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA
Gypsum Products		0.00900	0.00001	0.00002	0	0.00300	0.00800	0	NA	0.01103
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.05000	0.00005	0.00020	0	0.02000	0.07050	0	NA	0.09075
Micronutrients		0.00003	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.01000	0.00001	0.00003	0	0.00500	0.01000	0	NA	0.01504
NPK for P2O5		0.00500	0.00001	0.00001	0	0.00200	0.00400	0	NA	0.00602
P2O5 - 1		0.00600	0.00001	0.00002	0	0.00200	0.00600	0	NA	0.00803
Potash		0.00004	0.00000	0.00000	0	0.00001	0.00003	0	NA	0.00004
S as Nutrient		0.00300	0.00000	0.00001	0	0.00100	0.00300	0	NA	0.00401
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00008	0.00000	0.00000	0	0.00003	0.00008	0	NA	0.00011

¹ 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.