

US EPA ARCHIVE DOCUMENT

50th 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	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00080	0.00001	0.00003	0	0.00040	0.00200	0	NA	0.00244
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00001	0.00003	0	0.00040	0.00200	0	NA	0.00244
	NPK for P2O5	0.00040	0.00001	0.00002	0	0.00020	0.00080	0	NA	0.00103
	P2O5 - 1	0.00050	0.00001	0.00002	0	0.00030	0.00100	0	NA	0.00133
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Albuquerque, NM	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00080	0.00000	0.00001	0	0.00040	0.00200	0	NA	0.00241
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00030	0.00000	0.00000	0	0.00010	0.00040	0	NA	0.00051
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00080	0.00000	0.00001	0	0.00040	0.00100	0	NA	0.00141
NPK for P2O5		0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
P2O5 - 1		0.00050	0.00000	0.00001	0	0.00030	0.00090	0	NA	0.00121
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Atlanta, GA		Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
	Gypsum Products	0.00070	0.00001	0.00003	0	0.00040	0.00200	0	NA	0.00244
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00020	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00001	0.00002	0	0.00040	0.00100	0	NA	0.00143
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00080	0	NA	0.00101
	P2O5 - 1	0.00050	0.00001	0.00002	0	0.00030	0.00090	0	NA	0.00123
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

50th 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
Bismarck, ND	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00080	0.00000	0.00001	0	0.00040	0.00100	0	NA	0.00141
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00000	0	0.00010	0.00030	0	NA	0.00040
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
	NPK for P2O5	0.00040	0.00000	0.00000	0	0.00020	0.00060	0	NA	0.00080
	P2O5 - 1	0.00050	0.00000	0.00000	0	0.00030	0.00080	0	NA	0.00110
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Boise, ID	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00080	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00080	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
NPK for P2O5		0.00040	0.00000	0.00001	0	0.00020	0.00080	0	NA	0.00101
P2O5 - 1		0.00050	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Boulder, CO		Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
	Gypsum Products	0.00080	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00080	0.00001	0.00002	0	0.00040	0.00100	0	NA	0.00143
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00080	0	NA	0.00101
	P2O5 - 1	0.00050	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

50th 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
Casper, WY	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00080	0.00000	0.00001	0	0.00040	0.00200	0	NA	0.00241
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00000	0	0.00010	0.00030	0	NA	0.00040
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
	NPK for P2O5	0.00040	0.00000	0.00000	0	0.00020	0.00060	0	NA	0.00080
	P2O5 - 1	0.00050	0.00000	0.00000	0	0.00020	0.00080	0	NA	0.00101
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Charleston, SC	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00070	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00025	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00070	0.00001	0.00002	0	0.00030	0.00100	0	NA	0.00133
NPK for P2O5		0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
P2O5 - 1		0.00050	0.00000	0.00001	0	0.00030	0.00090	0	NA	0.00121
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Chicago, IL		Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
	Gypsum Products	0.00080	0.00001	0.00004	0	0.00040	0.00200	0	NA	0.00244
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00045	0	NA	0.00056
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00001	0.00003	0	0.00040	0.00200	0	NA	0.00244
	NPK for P2O5	0.00040	0.00001	0.00002	0	0.00020	0.00090	0	NA	0.00113
	P2O5 - 1	0.00050	0.00001	0.00002	0	0.00030	0.00100	0	NA	0.00133
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

50th 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
Cleveland, OH	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00080	0.00001	0.00004	0	0.00040	0.00200	0	NA	0.00245
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00050	0	NA	0.00061
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00001	0.00003	0	0.00040	0.00200	0	NA	0.00244
	NPK for P2O5	0.00040	0.00001	0.00002	0	0.00020	0.00090	0	NA	0.00113
	P2O5 - 1	0.00050	0.00001	0.00002	0	0.00030	0.00100	0	NA	0.00133
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Fresno, CA	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00080	0.00000	0.00002	0	0.00040	0.00200	0	NA	0.00242
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00080	0.00000	0.00001	0	0.00040	0.00100	0	NA	0.00141
NPK for P2O5		0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
P2O5 - 1		0.00050	0.00000	0.00001	0	0.00030	0.00090	0	NA	0.00121
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Grand Island, NE		Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
	Gypsum Products	0.00080	0.00000	0.00001	0	0.00040	0.00200	0	NA	0.00241
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00000	0	0.00010	0.00040	0	NA	0.00050
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00080	0.00000	0.00001	0	0.00040	0.00100	0	NA	0.00141
	NPK for P2O5	0.00040	0.00000	0.00000	0	0.00020	0.00070	0	NA	0.00091
	P2O5 - 1	0.00050	0.00000	0.00000	0	0.00030	0.00080	0	NA	0.00111
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

50th 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
Harrisburg, PA	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00080	0.00000	0.00001	0	0.00040	0.00200	0	NA	0.00241
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
	P2O5 - 1	0.00050	0.00000	0.00001	0	0.00030	0.00090	0	NA	0.00121
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Hartford, CT	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00070	0.00000	0.00001	0	0.00040	0.00100	0	NA	0.00141
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00025	0.00000	0.00000	0	0.00010	0.00030	0	NA	0.00040
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00070	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
NPK for P2O5		0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
P2O5 - 1		0.00050	0.00000	0.00001	0	0.00020	0.00080	0	NA	0.00101
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Houston, TX		Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
	Gypsum Products	0.00070	0.00000	0.00001	0	0.00035	0.00100	0	NA	0.00136
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00020	0.00000	0.00000	0	0.00010	0.00030	0	NA	0.00040
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00060	0	NA	0.00081
	P2O5 - 1	0.00050	0.00000	0.00001	0	0.00020	0.00080	0	NA	0.00101
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

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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	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00075	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00001	0.00002	0	0.00040	0.00100	0	NA	0.00143
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
	P2O5 - 1	0.00050	0.00000	0.00001	0	0.00030	0.00090	0	NA	0.00121
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Las Vegas, NV	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00080	0.00000	0.00001	0	0.00040	0.00200	0	NA	0.00241
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00030	0.00000	0.00000	0	0.00010	0.00040	0	NA	0.00050
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00080	0.00000	0.00001	0	0.00040	0.00100	0	NA	0.00141
NPK for P2O5		0.00040	0.00000	0.00000	0	0.00020	0.00070	0	NA	0.00090
P2O5 - 1		0.00050	0.00000	0.00000	0	0.00030	0.00080	0	NA	0.00111
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Los Angeles, CA		Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
	Gypsum Products	0.00080	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00075	0.00001	0.00002	0	0.00040	0.00100	0	NA	0.00143
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00080	0	NA	0.00101
	P2O5 - 1	0.00050	0.00000	0.00001	0	0.00030	0.00090	0	NA	0.00121
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

50th 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	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00070	0.00001	0.00003	0	0.00040	0.00200	0	NA	0.00244
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00020	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00001	0.00003	0	0.00040	0.00100	0	NA	0.00144
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00080	0	NA	0.00101
	P2O5 - 1	0.00050	0.00001	0.00002	0	0.00030	0.00090	0	NA	0.00123
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Miami, FL	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00060	0.00000	0.00000	0	0.00030	0.00100	0	NA	0.00130
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00020	0.00000	0.00000	0	0.00010	0.00030	0	NA	0.00040
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00060	0.00000	0.00000	0	0.00030	0.00100	0	NA	0.00130
NPK for P2O5		0.00035	0.00000	0.00000	0	0.00020	0.00050	0	NA	0.00070
P2O5 - 1		0.00040	0.00000	0.00000	0	0.00020	0.00070	0	NA	0.00090
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Minneapolis, MN		Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
	Gypsum Products	0.00080	0.00001	0.00003	0	0.00040	0.00200	0	NA	0.00244
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00080	0	NA	0.00101
	P2O5 - 1	0.00050	0.00001	0.00002	0	0.00030	0.00100	0	NA	0.00133
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

50th 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	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00070	0.00000	0.00001	0	0.00040	0.00200	0	NA	0.00241
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00000	0	0.00010	0.00030	0	NA	0.00041
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
	P2O5 - 1	0.00050	0.00000	0.00001	0	0.00020	0.00090	0	NA	0.00111
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Phoenix, AZ	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00080	0.00000	0.00001	0	0.00040	0.00200	0	NA	0.00241
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00030	0.00000	0.00000	0	0.00010	0.00040	0	NA	0.00050
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00080	0.00000	0.00001	0	0.00040	0.00100	0	NA	0.00141
NPK for P2O5		0.00040	0.00000	0.00000	0	0.00020	0.00070	0	NA	0.00091
P2O5 - 1		0.00050	0.00000	0.00001	0	0.00030	0.00090	0	NA	0.00121
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Portland, ME		Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
	Gypsum Products	0.00070	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00020	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00001	0.00002	0	0.00040	0.00100	0	NA	0.00143
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
	P2O5 - 1	0.00050	0.00001	0.00002	0	0.00030	0.00090	0	NA	0.00123
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

50th 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	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00070	0.00001	0.00003	0	0.00040	0.00200	0	NA	0.00244
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00001	0.00003	0	0.00040	0.00200	0	NA	0.00244
	NPK for P2O5	0.00040	0.00001	0.00002	0	0.00020	0.00080	0	NA	0.00103
	P2O5 - 1	0.00050	0.00001	0.00002	0	0.00030	0.00100	0	NA	0.00133
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Salem, OR	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00070	0.00000	0.00001	0	0.00040	0.00200	0	NA	0.00241
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00030	0.00000	0.00000	0	0.00010	0.00040	0	NA	0.00051
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00070	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
NPK for P2O5		0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
P2O5 - 1		0.00050	0.00000	0.00001	0	0.00020	0.00090	0	NA	0.00111
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Salt Lake City, UT		Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
	Gypsum Products	0.00080	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00001	0	0.00010	0.00040	0	NA	0.00051
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00080	0.00001	0.00002	0	0.00040	0.00200	0	NA	0.00243
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00080	0	NA	0.00101
	P2O5 - 1	0.00050	0.00000	0.00001	0	0.00030	0.00100	0	NA	0.00131
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

50th 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	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA	0.00001
	Gypsum Products	0.00080	0.00000	0.00001	0	0.00040	0.00200	0	NA	0.00241
	Iron	NA	NA	NA	NA	NA	NA	0	NA	NA
	Liming Materials	0.00030	0.00000	0.00000	0	0.00010	0.00040	0	NA	0.00050
	Micronutrients	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Mn	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	NPK as N	0.00070	0.00000	0.00001	0	0.00040	0.00100	0	NA	0.00141
	NPK for P2O5	0.00040	0.00000	0.00001	0	0.00020	0.00070	0	NA	0.00091
	P2O5 - 1	0.00050	0.00000	0.00001	0	0.00030	0.00090	0	NA	0.00121
	Potash	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Nutrient	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	S as Ph	NA	NA	NA	NA	NA	NA	0	NA	NA
	Zinc	0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
	Winnemucca, NV	Boron	0.00001	0.00000	0.00000	0	0.00000	0.00001	0	NA
Gypsum Products		0.00080	0.00000	0.00000	0	0.00040	0.00100	0	NA	0.00140
Iron		NA	NA	NA	NA	NA	NA	0	NA	NA
Liming Materials		0.00030	0.00000	0.00000	0	0.00010	0.00030	0	NA	0.00040
Micronutrients		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
Mn		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
NPK as N		0.00080	0.00000	0.00000	0	0.00030	0.00100	0	NA	0.00130
NPK for P2O5		0.00040	0.00000	0.00000	0	0.00020	0.00060	0	NA	0.00080
P2O5 - 1		0.00050	0.00000	0.00000	0	0.00020	0.00080	0	NA	0.00100
Potash		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Nutrient		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000
S as Ph		NA	NA	NA	NA	NA	NA	0	NA	NA
Zinc		0.00000	0.00000	0.00000	0	0.00000	0.00000	0	NA	0.00000

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.