

US EPA ARCHIVE DOCUMENT

**Percentiles of Dioxin TEQ for Media Concentration and Risks From Application of Fertilizer Products  
Bismarck, ND (Adult)**

Product	Percentile	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>
<b>Iron Micronutrient</b>	50th Percentile	4.E-10	6.E-11	1.E-11	1.E-12	4.E-10	1.E-10	2.E-11	1.E-11	1.E-10	2.E-11	6.E-12	1.E-08	1.E-08	2.E-12	4.E-11	2.E-08
	90th Percentile	2.E-09	2.E-10	4.E-11	6.E-12	2.E-09	4.E-10	8.E-11	4.E-11	9.E-10	1.E-10	5.E-11	7.E-08	7.E-08	3.E-11	2.E-10	1.E-07
	95th Percentile	2.E-09	2.E-10	5.E-11	8.E-12	2.E-09	5.E-10	1.E-10	6.E-11	2.E-09	2.E-10	8.E-11	1.E-07	1.E-07	6.E-11	3.E-10	2.E-07
	99th Percentile	2.E-09	3.E-10	7.E-11	1.E-11	2.E-09	6.E-10	2.E-10	1.E-10	4.E-09	5.E-10	2.E-10	3.E-07	2.E-07	2.E-10	4.E-10	5.E-07
<b>Liming Agents</b>	50th Percentile	1.E-06	2.E-07	5.E-08	5.E-09	2.E-06	5.E-07	6.E-08	3.E-08	5.E-07	7.E-08	2.E-08	4.E-05	4.E-05	6.E-09	1.E-07	9.E-05
	90th Percentile	6.E-06	1.E-06	2.E-07	2.E-08	7.E-06	2.E-06	3.E-07	2.E-07	4.E-06	6.E-07	2.E-07	3.E-04	3.E-04	9.E-08	6.E-07	6.E-04
	95th Percentile	7.E-06	1.E-06	2.E-07	3.E-08	9.E-06	2.E-06	4.E-07	3.E-07	7.E-06	1.E-06	3.E-07	5.E-04	5.E-04	2.E-07	1.E-06	NA
	99th Percentile	9.E-06	2.E-06	3.E-07	4.E-08	1.E-05	3.E-06	6.E-07	4.E-07	2.E-05	3.E-06	9.E-07	1.E-03	1.E-03	6.E-07	2.E-06	NA
<b>Zinc Micronutrients</b>	50th Percentile	4.E-09	6.E-10	1.E-10	1.E-11	4.E-09	1.E-09	1.E-10	7.E-11	9.E-10	2.E-10	4.E-11	9.E-08	8.E-08	1.E-11	3.E-10	2.E-07
	90th Percentile	2.E-07	3.E-08	6.E-09	5.E-10	2.E-07	6.E-08	5.E-09	3.E-09	8.E-08	1.E-08	2.E-09	6.E-06	6.E-06	1.E-09	1.E-08	1.E-05
	95th Percentile	2.E-07	5.E-08	9.E-09	8.E-10	3.E-07	9.E-08	9.E-09	6.E-09	2.E-07	3.E-08	5.E-09	2.E-05	2.E-05	3.E-09	2.E-08	3.E-05
	99th Percentile	6.E-07	1.E-07	2.E-08	2.E-09	8.E-07	2.E-07	2.E-08	2.E-08	6.E-07	8.E-08	2.E-08	4.E-05	6.E-05	1.E-08	7.E-08	1.E-04
<b>Magnesium Micronutrients</b>	50th Percentile	6.E-11	7.E-12	2.E-12	2.E-13	6.E-11	1.E-11	2.E-12	1.E-12	1.E-11	2.E-12	6.E-13	1.E-09	1.E-09	2.E-13	4.E-12	2.E-09
	90th Percentile	1.E-10	2.E-11	3.E-12	4.E-13	1.E-10	3.E-11	6.E-12	4.E-12	8.E-11	1.E-11	4.E-12	7.E-09	6.E-09	3.E-12	2.E-11	1.E-08
	95th Percentile	1.E-10	2.E-11	4.E-12	5.E-13	1.E-10	3.E-11	7.E-12	5.E-12	1.E-10	2.E-11	7.E-12	1.E-08	9.E-09	6.E-12	2.E-11	2.E-08
	99th Percentile	2.E-10	2.E-11	5.E-12	8.E-13	2.E-10	4.E-11	1.E-11	8.E-12	3.E-10	5.E-11	2.E-11	2.E-08	2.E-08	1.E-11	4.E-11	4.E-08
<b>Phosphate Fertilizers</b>	50th Percentile	3.E-09	3.E-10	7.E-11	8.E-12	2.E-09	6.E-10	1.E-10	5.E-11	5.E-10	8.E-11	2.E-11	4.E-08	4.E-08	1.E-11	2.E-10	9.E-08
	90th Percentile	5.E-09	6.E-10	1.E-10	2.E-11	4.E-09	1.E-09	3.E-10	2.E-10	3.E-09	5.E-10	2.E-10	3.E-07	2.E-07	1.E-10	7.E-10	5.E-07
	95th Percentile	5.E-09	7.E-10	1.E-10	2.E-11	5.E-09	1.E-09	3.E-10	2.E-10	5.E-09	8.E-10	3.E-10	4.E-07	3.E-07	2.E-10	1.E-09	7.E-07
	99th Percentile	6.E-09	8.E-10	2.E-10	3.E-11	6.E-09	1.E-09	5.E-10	3.E-10	1.E-08	2.E-09	7.E-10	9.E-07	6.E-07	6.E-10	1.E-09	2.E-06
<b>Potash</b>	50th Percentile	2.E-09	2.E-10	5.E-11	5.E-12	2.E-09	4.E-10	8.E-11	3.E-11	4.E-10	6.E-11	2.E-11	4.E-08	3.E-08	9.E-12	1.E-10	7.E-08
	90th Percentile	3.E-09	4.E-10	8.E-11	1.E-11	3.E-09	7.E-10	2.E-10	1.E-10	2.E-09	4.E-10	1.E-10	2.E-07	2.E-07	1.E-10	5.E-10	3.E-07
	95th Percentile	3.E-09	4.E-10	9.E-11	1.E-11	3.E-09	8.E-10	2.E-10	1.E-10	3.E-09	5.E-10	2.E-10	3.E-07	2.E-07	2.E-10	6.E-10	5.E-07
	99th Percentile	4.E-09	5.E-10	1.E-10	2.E-11	4.E-09	1.E-09	3.E-10	2.E-10	7.E-09	1.E-09	4.E-10	6.E-07	4.E-07	4.E-10	9.E-10	1.E-06

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