

Task 3: Agricultural Byproducts to Sorb Metals

	mg/liter	mol wt sulfate	waters of hydration	mol wt hydrate	fraction sulfate	sulfate alone mg/liter
Aluminum, as $\text{Al}_2(\text{SO}_4)_3 \cdot 16\text{H}_2\text{O}$	197.07	342.15	16	630.39	0.543	106.96
Arsenic, as As_2O_3	0.26	197.84	0	197.84	1.000	0.26
Cadmium, as $\text{CdSO}_4 \cdot 5\text{H}_2\text{O}$	0.37	208.46	5	298.54	0.698	0.26
Copper, as $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	5.89	159.6	5	249.68	0.639	3.76
Iron, as $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$	547.18	151.06	7	278.05	0.543	297.27
Lead, as PbSO_4	0.15	303.25	0	303.25	1.000	0.15
Manganese, as $\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$	252.27	151	4	223.06	0.677	170.77
Nickel, as $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$	0.09	154.78	6	262.86	0.589	0.05
Zinc, as $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	228.57	161.43	7	287.54	0.561	128.32
Sulfate, final concentration needed*	850					
pH, adjusted with H_2SO_4 or NaOH as needed	2.6					