Table 1. Concentrations of Metals (±95% Confidence Intervals) in Examined Fire Suppressants and Regulatory Thresholds[a]

	Regulatory Thresholds (μg/L)									
	Cr	Cd	As	Pb	Cu	V	Mn	Sb	Ba	Tl
US EPA MCL[48]	100	5	10	15[b]	1,300[b]	50[c]	50[c]	6	2,000	2
CA STLC[50]	5,000[d]	1,000[d]	5,000[d]	5,000[d]	25,000	24,000		15,000	100,000[d]	7,000
	Products Listed on US Forest Service Fire Retardants QPL[e] (μg/L)									
	Cr	Cd	As	Pb	Cu	V	Mn	Sb[f]	Ba	Tl
PhosChek LC-95W	**72,700 ± 1,500**	**14,400 ± 300**	***962 ± 9***	***63 ± 2***	***2,660 ± 160***	**119,000 ± 2,000**	***16,100 ± 400***	***767 ± 5***	282 ± 13	***412 ± 4***
Komodo	***600 ± 100***	***96 ± 11***	***286 ± 9***	***31 ± 4***	300 ± 140	***870 ± 130***	***630 ± 60***	***12 ± 4***	370 ± 80	***3.6 ± 1.8***
	Products Listed on US Forest Service Class A Foams QPL[g] (μg/L)									
	Cr	Cd	As	Pb	Cu	V	Mn	Sb[f]	Ba	Tl
PhosChek First Response	6 ± 3	0.8 ± 0.2	0.5 ± 0.6	***20.8 ± 0.4***	54 ± 4	<0.7	13.0 ± 1.6	1.8 ± 1.8	20 ± 5	0.5 ± 0.3
PhosChek WD881	6.6 ± 1.9	<0.65	1.0 ± 0.4	***19.7 ± 0.4***	43 ± 4	<0.7	8.96 ± 0.09	2.4 ± 0.9	17 ± 5	0.50 ± 0.18
Silv-Ex Plus Class A	8 ± 3	0.9 ± 0.4	0.4 ± 0.3	***23.7 ± 1.0***	57.3 ± 1.0	<0.7	10.61 ± 0.10	2.99 ± 0.10	22 ± 2	0.8 ± 0.4
KnockDown	8 ± 2	<0.65	0.5 ± 0.4	***21.1 ± 1.0***	47 ± 4	<0.7	10.84 ± 0	3.9 ± 1.6	16 ± 4	0.43 ± 0.19
FireIce Polar EcoFoam	10 ± 3	1.02 ± 0.10	0.83 ± 0.19	***25.2 ± 0.4***	115 ± 6	0.39 ± 0.19	14.0 ± 0.6	8 ± 8	23 ± 4	0.99 ± 0
	Products Listed on US Forest Service Water Enhancers QPL[h] (μg/L)									
	Cr	Cd	As	Pb	Cu	V	Mn	Sb[f]	Ba	Tl
Barricade II	8 ± 3	3 ± 3	3 ± 3	8 ± 2	40 ± 50	2 ± 2	20 ± 60	***14 ± 4***	12 ± 3	3 ± 3
ThermoGel-200L	23 ± 2	4 ± 3	2 ± 3	***54 ± 5***	***3,330 ± 80***	2 ± 2	31 ± 3	***8 ± 2***	190 ± 4	2 ± 3
	Unlisted Products (μg/L)									
	Cr	Cd	As	Pb	Cu	V	Mn	Sb[f]	Ba	Tl
Cold Fire	94 ± 2	<0.65	<0.25	***24 ± 17***	61 ± 11	11 ± 7	***59.1 ± 1.9***	4 ± 3	183 ± 8	0.7 ± 1.8
DRI-ONE	36.8 ± 1.9	0.9 ± 2.4	0.7 ± 1.4	***15 ± 4***	130 ± 160	***96 ± 8***	26.6 ± 1.2	5 ± 3	260 ± 10	0.9 ± 1.4
Flamecheck M-111	***145 ± 4***	5 ± 5	***60.2 ± 1.6***	7 ± 2	150 ± 10	30 ± 11	***68 ± 3***	***53 ± 15***	122 ± 3	1 ± 2
Master Flame	40 ± 7	0.8 ± 2.5	***10 ± 8***	8 ± 3	57 ± 63	***400 ± 150***	***298 ± 5***	3 ± 4	112 ± 7	<0.085
No-Burn	***202 ± 18***	***38.9 ± 1.7***	***142 ± 9***	***20 ± 3***	***2,000 ± 500***	44 ± 6	***2,300 ± 200***	***39 ± 11***	205 ± 3	***5.1 ± 1.8***

[a]Values in italics indicate concentrations exceeding drinking water regulations, and values in boldface indicate concentrations exceeding hazardous waste regulations. For products that recommend users to dilute before application, values reflect concentrations present after dilution. [b]Pb and Cu listed regulations are action levels. [c]Mn and V listed regulations are California Notification Levels.[49] [d]Metals also federally regulated (at same concentrations[51]). [e]Reference 16. [f]Recovery of Sb in HNO_3 alone can be low,[52] so these values may be an underestimate and should be regarded as lower bounds. [g]Reference 15. [h]Reference 14.

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