Converting an Oxide wt% to Elemental ppm

https://www.fishersci.com/us/en/periodic-table.html

1. Calculate the oxide-to-element conversion factor:
Molecular weight = molar mass
Mass fraction of Al in Al2O3 = factor for Al in Al2O3

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Al2O3: aluminum oxide

Atomic weights:
Al: 26.98
O: 16.00

Molar mass of Al2O3:
2*26.98+3*16

Mass fraction of Al:
(2*26.98)/(2*26.98+3*16) = 0.529

Oxide wt% to elemental ppm conversion:
If a sample has 10 wt% Al2O3, then the Al content is:
10 * 0.529 * 10000 = 52,900 ppm Al

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CaO: calcium oxide

Atomic weights:
Ca: 40.08
O: 16.00

Molar mass of CaO:
40.08+16 = 56.08

Factor in CaO:
40.08/(40.08+16) = 0.715

Oxide wt% to elemental ppm conversion:
If a sample of 10 wt% CaO, then the Ca content is:

0.715 * 10 * 10,000 = 71,500 ppm Ca

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P2O5: phosphorus pentoxide
Atomic weights:
P: 30.97
O: 16.00

Molar mass of P2O5:
2 * 30.97 + 5 * 16 = 141.94

Factor in P2O5:
(2 * 30.97) / (2*30.97 + 5*16) = 0.436

Oxide wt% to elemental ppm conversion:
If a sample of 10 wt% P2O5, then the P content is:

0.436 * 10 * 10,000 = 43,600 ppm P