The New Niobium Cluster Azides $(NH_4)_4[Nb_6Cl_{12}(N_3)_6](H_2O)_2$ and $Na_{1.15(3)}La_{0.85(3)}[Nb_6Cl_{12}(N_3)_6](H_2O)_{13(1)}$. Syntheses and Crystal Structure Determination

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In memoriam Joachim Strähle

The cluster compounds $(NH_4)_4[Nb_6Cl_{12}(N_3)_6](H_2O)_2$ (**1**) and $Na_{1.15(3)}La_{0.85(3)}[Nb_6Cl_{12}(N_3)_6]$-$(H_2O)_{13(1)}$ (**2**) have been synthesized by the reaction of an aqueous solution of Nb_6Cl_{14} with an excess of NaN_3 and the respective chloride salts. **1** crystallizes isotypically to the other alkali metal cluster azides in the space group $P\bar{1}$ (no. 2) with the lattice parameters a = 908.97(8), b = 932.78(8), c = 1045.78(9) pm; and α = 95.94(1), β = 101.68(1) and γ = 102.41(1)°, while **2** is found to be nearly isostructural to the alkaline earth metal cluster azides crystallizing in the space group $Fd\bar{3}m$ (no. 227) with the lattice parameter a = 1996.9(1) pm. The stoichiometry of **2** was confirmed by EDX analyses which also led to a reconsideration of the water content of alkaline earth metal cluster azide compounds. The title compounds and results obtained from the reevaluation of the alkaline earth metal cluster azides are compared.

Key words: Azide, Cluster, Niobium, Alkaline Earth Metal, Rare Earth Metal