

A novel Mo-Sn chlorocarbonyl compound. X-ray crystal structure of $[(\text{CO})_4\text{Mo}(\mu\text{-Cl})_3\text{Mo}(\text{SnCl}_3)(\text{CO})_3]$ and $[\text{MoCl}(\text{SnCl}_3)(\text{CO})_3(\text{NCeEt})_2]$.

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The new heterobimetallic complex $[(\text{CO})_4\text{Mo}(\mu\text{-Cl})_3\text{Mo}(\text{SnCl}_3)(\text{CO})_3]$ (1) has been prepared by photochemical reaction of $\text{Mo}(\text{CO})_6$ with SnCl_4 . The structure of complex 1 was established by X-ray crystallography. The basic structural units of 1 are two seven-coordinate molybdenum atoms, which are linked by three chlorine atoms occupying a bridging position between the molybdenum atoms. The mononuclear seven-coordinate complex $[\text{MoCl}(\text{SnCl}_3)(\text{CO})_3(\text{NCMe})_2]$ (2) is formed by reaction of $[(\text{CO})_4\text{Mo}(\mu\text{-Cl})_3\text{Mo}(\text{SnCl}_3)(\text{CO})_3]$ with acetonitrile. Treatment of compound 2 with propionitrile affords $[\text{MoCl}(\text{SnCl}_3)(\text{CO})_3(\text{NCeEt})_2]$ (3). A single-crystal X-ray diffraction study of the complex $[\text{MoCl}(\text{SnCl}_3)(\text{CO})_3(\text{NCeEt})_2]$ (3) showed that the environment of the molybdenum atom is a distorted capped octahedron with the SnCl_3 anionic ligand occupying the unique capping position above an octahedral face defined by the bridging chlorine and two carbonyl groups.

Słowa kluczowe

Molybdenum(II) complexes, Tin(II) complexes, Crystal structures, Seven-coordinate complexes

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