

Gmelin Handbook of Inorganic and Organometallic Chemistry, 8th Edition, Mo, Part 7, Organomolybdenum Compounds, VOL. XI, Springer-Verlag, Berlin, 1991, pp. 368. DM 1895. ISBN 3-540-93625-4

This latest volume deals with mononuclear molybdenum compounds containing one η^5 -cyclopentadienyl ligand, two carbonyl ligands, and subsidiary ligands other than carbon ligands, giving a general formula $[\text{Mo}(\text{C}_5\text{H}_5)(\text{CO})_2\text{L}_m]^{0 \text{ or } n-}$. At a rough guess, that means about 800 compounds, which is more than I had believed possible, and consequently less than half of a page per compound, on average.

The pattern is the logical Gmelin one, and the presentation is clear, precise, and detailed, with full physical properties, structural formulae where appropriate, sketches of X-ray crystal structures, and selected bond dimensions. It is a tabulation, and often in tabular form. It is easy to use and rapidly comprehensible. What it doesn't do, and doesn't claim to do, is to give a critical evaluation of the literature. That is rightly left to conventional reviews. The two indexes (compounds and ligands) occupy about 60 pages.

The cost is, of course, very high. However, it should be considered that a literature search, even computerised, of a class of 800 compounds, plus presentation of data, would cost rather more than DM 1895, not including the cost of the time involved. This is good value for money.

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Gmelin Handbook of Inorganic and Organometallic Chemistry, 8th Edition, Fe—Iron Supplement Volume B1, Compounds with Noble Gases and Hydrogen, VOL. XX, Springer-Verlag, Berlin, 1991, pp. 336. DM 1780. ISBN 3-540-93621-1

Iron does not form compounds with noble gases (in other Gmelin volumes also called rare gases). They are very slightly soluble in iron, so the whole subject, with literature coverage until the end of 1989, is covered in a mere 40 pages! Similarly there is no solid stoichiometric compound formed between iron and hydrogen. However, hydrogen is soluble in iron, and this is of both theoretical and practical significance. The remainder of this book suffices to discuss this matter. Clearly there is overlap here with other Gmelin volumes, for example, those concerning corrosion of iron. For the non-specialist there is a certain fascination in learning how complex a single system can be. This is, of course, not a volume to be read at one sitting. It is to be savoured, to wonder at the ingenuity of scientists and the application of the Gmelin authors. As usual, this is an impeccable production, made not for passing use, but to last for many years. The Gmelin monument grows without losing its quality, a highly creditable achievement.

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