

Organoaluminium and -Gallium Compounds with O-Oximato Substituents

Norbert W. Mitzel, Christian Lustig, and Markus Woski

Westfälische Wilhelms-Universität Münster, Institut für Anorganische und Analytische Chemie, Wilhelm-Klemm-Str. 8, D-48149 Münster, Germany

Reprint requests to Prof. Dr. N. W. Mitzel, Fax (+49)25 1833 6007.

E-mail: Mitzel@uni-muenster.de

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The organoaluminium and -gallium acetoximates ($t\text{Bu}_2\text{MON}=\text{CMe}_2$)₂ (M = Al, Ga) have been prepared by the reaction of acetoneoxime with tri-*tert*-butylaluminium and -gallium. The compounds ($\text{Me}_2\text{MON}=\text{CMe}_2$)₂ (M = Al, Ga), described previously, were synthesized for comparison. All compounds have been characterised by NMR spectroscopy (¹H, ¹³C, ²⁷Al), by mass spectrometry and elemental analyses. The crystal structures of the four compounds have been determined, and it was shown that all form dimers with six-membered M₂O₂N₂ rings by aggregation through the imino N atoms. The compounds ($\text{Me}_2\text{MON}=\text{CMe}_2$)₂ adopt boat conformations, whereas the compounds ($t\text{Bu}_2\text{MON}=\text{CMe}_2$)₂ prefer chair conformations. Large differences in the M-O-N angles have been found between the methyl and the *tert*-butyl analogues.

Key words: Aluminium, Gallium, Oximates, Crystal Structure