

radii of the 20 elements involved that differ by such a small amount as 0.025 Å (mean deviation) from the metallic radii for ligancy 12 that were formulated for the metals in 1947.

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Comments on the Preceding Paper by L. Pauling Entitled "The Use of Atomic Radii, etc."

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The writer believes that his position regarding the various aspects of the β -W type structure has been made abundantly clear in his two papers (Geller, 1956, 1957) and therefore, that there is no point in his further discussing this most recent paper (Pauling, 1957).

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The Crystal Structure of AgClO_2

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The structure of AgClO_2 has been determined, using the Fourier difference method to locate the chlorine and oxygen atoms. The crystals of AgClO_2 are orthorhombic, with four molecules in a unit cell. The lattice constants are $a = 6.07$, $b = 6.13$, $c = 6.68$ Å, all ± 0.01 Å, space group $D_{2h}^{21}-Cmma$. The structure is built up of AgClO_2 molecules, rather than of Ag^+ and ClO_2^- ions.

Introduction

The salts of chlorous acid represent a field which has been little studied from a structural point of view. Of preceding research, that of Levi & Scherillo (1931; see also Wyckoff, 1951) on NH_4ClO_2 is considered the most complete. This salt has high symmetry (tetragonal) but decomposes in a few hours and cannot tolerate long exposure to X-rays.

This paper describes the study of AgClO_2 , which with $\text{Pb}(\text{ClO}_2)_2$ represents the only anhydrous chlorite which gives distinct crystals. AgClO_2 is also the most

stable salt of chlorous acid. Of other chlorites, $\text{NaClO}_2 \cdot 3\text{H}_2\text{O}$ is being studied.

Experimental

AgClO_2 crystallizes in flat, rectangular laminae, or rarely in rectangular parallelepipeds, with cleavages parallel to (001) and (010). The crystals, which are a shiny yellow upon preparation, become slightly black in time. Optical examination along the z axis reveals a strong birefringence, with $n_x > n_y$. The X-ray