

Die Kristallstrukturen des Diphenylphosphinsäureamids, $\text{Ph}_2\text{P}(\text{O})\text{NH}_2$, und seines Cäsiumsalzes $[\text{Cs}\{\text{Ph}_2\text{P}(\text{O})\text{NH}\}]$

Crystal Structures of Diphenylphosphinic Acid Amide, $\text{Ph}_2\text{P}(\text{O})\text{NH}_2$, and of its Cesium Salt $[\text{Cs}\{\text{Ph}_2\text{P}(\text{O})\text{NH}\}]$

Sabine Schlecht, Soheila Chitsaz, Bernhard Neumüller, Kurt Dehnicke*

Fachbereich Chemie der Universität Marburg, Hans-Meerwein-Straße, D-35032 Marburg/Lahn

Z. Naturforsch. **53 b**, 17–22 (1998); eingegangen am 3. November 1997

Phosphinic Acid Amide, Cesium, Crystal Structure

The crystal structures of the monoclinic form of $\text{Ph}_2\text{P}(\text{O})\text{NH}_2$ and of its cesium salt, $[\text{Cs}\{\text{Ph}_2\text{P}(\text{O})\text{NH}\}]$ have been determined by X-ray methods.

$\text{Ph}_2\text{P}(\text{O})\text{NH}_2$: Space group $\text{P}2_1/c$, $Z = 16$, lattice dimensions (-80°C): $a = 2530.2(3)$, $b = 858.9(2)$, $c = 2135.5(3)$ pm, $\beta = 110.78(1)^\circ$, $R_1 = 0.055$. Diphenylphosphinic acid amide forms dimeric molecules *via* N-H...O hydrogen bonds, the dimeric units again are associated *via* hydrogen bonds to form infinite double chains along the crystallographic c axis.

$[\text{Cs}\{\text{Ph}_2\text{P}(\text{O})\text{NH}\}]$: Space group Pccn , $Z = 8$, lattice dimensions (-83°C): $a = 1262.8(1)$, $b = 2632.3(2)$, $c = 769.1(1)$ pm, $R_1 = 0.024$. The compound is associated *via* Cs-O and Cs-N contacts along the crystallographic $[001]$ axis forming a tubular arrangement. There are no hydrogen bonds.

* Sonderdruckanforderungen an Prof. Dr. K. Dehnicke.