SPACE GROUP AND UNIT CELL DIMENSIONS OF COPPER PROPIONATE MONOHYDRATE

(Mrs.) ALOKA PODDER AND S. N. GIRI

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE, CALCUTTA-32.

(*Received September* 16, 1965)

Copper propionate monohydrate crystals are obtained by slow evaporation from an aqueous solution of the substance.

The crystals belong to the monoclinic system.

The unit cell dimensions are obtained from rotation and Weissenberg photographs along [010]. That the unit cell is a reduced one is tested by Buerger's method (1957). The dimensions of the unit cell are given below :

$$a = 15.2\text{Å}$$

$$b = 17.4\text{Å}$$

$$c = 15.4\text{Å}$$

and $$\beta = 94°18'$$

They correspond well with Groth's values of $a : b : c = 0.874 : 1 : 0.886$ and $\beta = 94°22'$.

Zero and first layer Weissenberg photographs along [010] and [001] were taken and the following systematic extinctions were observed.

hkl— all present

hol——$h = 2n+1$ absent

oko——$k = 2n+1$ absent

From the above conditions the space group is assigned as $P2_1/a$.

The density was determined by flotation method by using a mixture of bromoform and benzene. This gives a value of $d = 1.42$g cm ^{3}. The density calculated by considering 16 molecules in the unit cell is 1.48g cm^{-3}.

Further work on the determination of the complete structure of the substance is in progress.

The authors express their sincerest gratitude to Dr. R. K. Sen D.Sc. for constant guidance, and to Prof. K. Banerjee, D.Sc., F.N.I. for his kind encouragement throughout the course of the work. One of the authors (S.N.G.) is grateful to C.S.I.R. for financial help.

REFERENCES

Buerger, M. J., 1957, *Zeit. Krist.*, **109**, 42–60.
Groth, P., *Chemische Kristallographie*, III, 205.