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The crystal structure of $SnHAsO_4$.

By ALAN F. BERNDT, *Chemistry Department, University of Missouri–St. Louis, St. Louis, Missouri* 63121, *U.S.A.*

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Compound $SnHAsO_4$ is isostructural with $SnHPO_4$. The unit cell is monoclinic with $a=4{\cdot}777\pm0{\cdot}012$, $b=14{\cdot}153\pm0{\cdot}049$, $c=6{\cdot}024\pm0{\cdot}025$ Å, $\beta=100°15'\pm30'$. Space group is $P2_1/c$, and the density calculated for $Z=4$ is 4·29 g.cm^{-3}.

The reaction between solutions of $SnCl_2.2H_2O$ and $Na_2HAsO_4.7H_2O$ was studied at various values of *p*H and for Sn:As ratios between 1:2 and 3:2. Identical X-ray powder patterns were given by the crystalline precipitate in every case. Single crystals of this product were obtained by a diffusion-controlled reaction. A sample of $SnCl_2.2H_2O$ was placed in one leg of an '*H*' shaped tube filled with water. Crystals of $Na_2HAsO_4.7H_2O$ were placed in the other leg, and the reaction mixture was maintained under an argon atmosphere. Numerous needle-like crystals were observed after several days.

A crystal approximately 0·01 mm in diameter and 0·2 mm in length was chosen for data collection and was mounted with the long dimension coincident with the axis of rotation. Multiple-film equi-inclination Weissenberg data were collected for layers *hk*0 through *hk*3 with Ni-filtered Cu $K\alpha$ radiation ($\lambda=1{\cdot}54178$ Å). Comparison of the observed intensity data with that previously reported for $SnHPO_4$ (Berndt & Lamberg, 1971) clearly indicates the isomorphism between these two compounds. If the isomorphism is complete, then the product of the reaction between $SnCl_2.2H_2O$ and $Na_2HAsO_4.7H_2O$ is $SnHAsO_4$.

The unit cell of $SnHAsO_4$ is monoclinic with

$$\begin{aligned} a &= 4{\cdot}777\pm0{\cdot}012 \text{ Å} \\ b &= 14{\cdot}153\pm0{\cdot}049 \\ c &= 6{\cdot}024\pm0{\cdot}025 \\ \beta &= 100°15'\pm30'. \end{aligned}$$

Lattice constants were determined from a powder pattern indexed with the aid of the single-crystal data. Standard deviations in the lattice constants were estimated by a least-squares analysis. The density calculated for $Z=4$ is 4·29 g.cm^{-3}, and the space group is $P2_1/c$.

Although $SnHPO_4$ and $SnHAsO_4$ are isostructural they do not have identical crystalline habits. Both compounds crystallize as needles; however, the needle axis of $SnHPO_4$ is [$\bar{1}$03] (Berndt & Lamberg, 1971), whereas the needle axis of $SnHAsO_4$ is [001].

References

BERNDT, A. F. & LAMBERG, R. (1971). *Acta Cryst.* B**27**, 1092.

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Errata in *International Tables for X-ray Crystallography*.

By A. D. MIGHELL, A. SANTORO and J. D. H. DONNAY, *National Bureau of Standards, Washington D.C.* 20234, *U.S.A.*

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A number of misprints in *International Tables for X-ray Crystallography* (1969), Vol. I should be corrected.

The following misprints should be corrected in *International Tables for X-Ray Crystallography*, Vol. I (1969) reprinting:

Table 5.1.2.1

Last item in condition 4(*a*)

For $|\mathbf{a}\cdot\mathbf{b}\leq\frac{1}{2}\mathbf{a}\cdot\mathbf{a}$ read $|\mathbf{a}\cdot\mathbf{b}|\leq\frac{1}{2}\mathbf{a}\cdot\mathbf{a}$

Conditions (5*c*), (5*d*), (5*e*)

For		read	
	$\mathbf{b}\cdot\mathbf{c}=\frac{1}{2}\mathbf{b}\cdot\mathbf{b}$		$\lvert\mathbf{b}\cdot\mathbf{c}\rvert=\frac{1}{2}\mathbf{b}\cdot\mathbf{b}$
	$\mathbf{a}\cdot\mathbf{c}=\frac{1}{2}\mathbf{a}\cdot\mathbf{a}$		$\lvert\mathbf{a}\cdot\mathbf{c}\rvert=\frac{1}{2}\mathbf{a}\cdot\mathbf{a}$
	$\mathbf{a}\cdot\mathbf{b}=\frac{1}{2}\mathbf{a}\cdot\mathbf{a}$		$\lvert\mathbf{a}\cdot\mathbf{b}\rvert=\frac{1}{2}\mathbf{a}\cdot\mathbf{a}$

Table 5.1.2.2

Matrix of cell **S**, sixth entry

For $\begin{pmatrix}\mathbf{a}\cdot\mathbf{a} & \mathbf{b}\cdot\mathbf{b} & \mathbf{c}\cdot\mathbf{c} \\ \frac{\mathbf{b}\cdot\mathbf{b}}{2} & \mathbf{a}\cdot\mathbf{c} & \mathbf{a}\cdot\mathbf{b}\end{pmatrix}$ read $\begin{pmatrix}\mathbf{a}\cdot\mathbf{a} & \mathbf{b}\cdot\mathbf{b} & \mathbf{c}\cdot\mathbf{c} \\ -\frac{\mathbf{b}\cdot\mathbf{b}}{2} & \mathbf{a}\cdot\mathbf{c} & \mathbf{a}\cdot\mathbf{b}\end{pmatrix}$

Matrix of cell **S**, seventh entry

For $\begin{pmatrix}\mathbf{a}\cdot\mathbf{a} & \mathbf{b}\cdot\mathbf{b} & \mathbf{c}\cdot\mathbf{c} \\ \mathbf{b}\cdot\mathbf{c} & \frac{\mathbf{a}\cdot\mathbf{a}}{2} & \mathbf{a}\cdot\mathbf{b}\end{pmatrix}$ read $\begin{pmatrix}\mathbf{a}\cdot\mathbf{a} & \mathbf{b}\cdot\mathbf{b} & \mathbf{c}\cdot\mathbf{c} \\ \mathbf{b}\cdot\mathbf{c} & -\frac{\mathbf{a}\cdot\mathbf{a}}{2} & \mathbf{a}\cdot\mathbf{b}\end{pmatrix}$

Matrix of cell **S′**, sixth entry

For $\begin{pmatrix}\mathbf{a}\cdot\mathbf{a} & \mathbf{b}\cdot\mathbf{b} & \mathbf{c}\cdot\mathbf{c} \\ \frac{\mathbf{b}\cdot\mathbf{b}}{2} & (|\mathbf{a}\cdot\mathbf{c}|+|\mathbf{a}\cdot\mathbf{b}) & |\mathbf{a}\cdot\mathbf{b}|\end{pmatrix}$

read $\begin{pmatrix}\mathbf{a}\cdot\mathbf{a} & \mathbf{b}\cdot\mathbf{b} & \mathbf{c}\cdot\mathbf{c} \\ \frac{\mathbf{b}\cdot\mathbf{b}}{2} & (|\mathbf{a}\cdot\mathbf{c}|+|\mathbf{a}\cdot\mathbf{b}|) & |\mathbf{a}\cdot\mathbf{b}|\end{pmatrix}$

Relations between scalars, last entry

For $2|\mathbf{a}\cdot\mathbf{c}|+2|\mathbf{a}\cdot\mathbf{b}|<\mathbf{a}\cdot\mathbf{a}$ read $2|\mathbf{a}\cdot\mathbf{c}|+|\mathbf{a}\cdot\mathbf{b}|<\mathbf{a}\cdot\mathbf{a}$

Transformation matrix, last entry

For 100/010/111 read $\bar{1}$00/0$\bar{1}$0/111

Table 5.1.3.1

Entry No. 8

For $c_1=[a(\mathbf{a}\cdot\mathbf{a}-|\mathbf{b}\cdot\mathbf{c}|)]^{1/2}$ read $c_1=[2(\mathbf{a}\cdot\mathbf{a}-|\mathbf{b}\cdot\mathbf{c}|)]^{1/2}$

Entry No. 15

For $c_1=[2(c^2-a^2)]^{1/2}$ read $c_1=[2(2c^2-a^2)]^{1/2}$

Entry No. 18

For $\frac{\mathbf{a}\cdot\mathbf{a}}{2}\ \frac{\mathbf{a}\cdot\mathbf{a}}{2}\ \frac{\mathbf{a}\cdot\mathbf{a}}{2}$ read $\frac{\mathbf{a}\cdot\mathbf{a}}{4}\ \frac{\mathbf{a}\cdot\mathbf{a}}{2}\ \frac{\mathbf{a}\cdot\mathbf{a}}{2}$

Entry No. 19

For $c_1=[2b^2-a^2+\mathbf{b}\cdot\mathbf{c}]^{1/2}$ read $c_1=[2b^2-a^2+2\mathbf{b}\cdot\mathbf{c}]^{1/2}$

Entry No. 30

For $a_1=a, c_1=b$ read $a_1=b, c_1=a$

Entry No. 43 third fraction

For $-\frac{|\mathbf{a}\cdot\mathbf{b}|}{2}$ read $-|\mathbf{a}\cdot\mathbf{b}|$

The last correction was pointed out to us by Mr Massoud Behruzi, Diplom-Mineralog, Aachen, Germany (BRD).

References

International Tables for X-ray Crystallography (1969). Vol. I. Birmingham: Kynoch Press.

International Union of Crystallography

Journal of Applied Crystallography* Acta Crystallographica*

Journal of Applied Crystallography

The Executive Committee of the International Union of Crystallography announces that it is necessary to increase the regular yearly subscription rates for the *Journal of Applied Crystallography* from 1 January 1972. The subscription rates have remained constant since the journal was launched in 1968 although the number of papers submitted has increased substantially and the size of the volume for 1971 is likely to be nearly twice that for 1969. It is also necessary to cover the continued increases in the basic costs of production.

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Eighth General Assembly and International Congress of Crystallography

A full report of the Eighth General Assembly of the International Union of Crystallography, held at the State University of New York at Stony Brook, U.S.A. from 13 to 21 August 1969, and of the Eighth International Congress of Crystallography, has been published in the September 1971 issue of *Acta Crystallographica,* Vol. A27, page 497.

* *Note added in proof:* – Owing to recent variations in exchange rates the dollar prices given here no longer apply.