



>>Entry Name: Indium antimonide (InSb)

CAS Registry Number: 1312-41-0

Extra CAS Registry Numbers(s): 26209-91-6

InSb

Molecular Formula: InSb

Molecular Weight: 236.57

Accurate Mass: 235.807701

Percentage Composition: In 48.54%; Sb 51.46%

Source/Synthesis: From elements in Ar, purified by zone refining

Use/Importance: Important semiconductor for use at low temps.

Physical Description: Black solid

Melting Point: Mp 525°

Other Data: ϵ 15.7. ΔH_f° -33.5 kJ mol⁻¹; S° 86.2 J K⁻¹ mol⁻¹. Electrical conductivity $2.5 \times 10^4 \Omega^{-1} \text{ cm}^{-1}$ (300K). Band gap 0.17 eV. Electron mobility 7.8; hole mobility 0.075 m² V⁻¹ s⁻¹. Refractive index n_D 3.96

References:

Schulman, R.G. *et al.*, *Phys. Rev.*, 1955, **100**, 692, (*Sb-121, In-115 nmr*)

Giesecke, G. *et al.*, *Acta Cryst.*, 1958, **11**, 369, (*cryst struct*)

Hilsum, C. *et al.*, *Semiconduc. III-V Compds.*, Pergamon, Oxford, 1961

Willardson, R.K. *et al.*, *Compound Semiconductors*, Reinhold, 1962, (*synth*)

Harrison, B.C. *et al.*, *Inorg. Chem.*, 1962, **1**, 951, (*synth*)

Piespergen, U., *Z. Naturforsch., A*, 1963, **18**, 141, (*thermodyn*)

Sanderson, R.B., *J. Phys. Chem. Solids*, 1965, **26**, 803, (*ir*)

Willardson, R.K. *et al.*, *Semicond. Semimet.*, Academic Press, 1966, **1**; **2**; 1967, **3**; 1968, **4**

Van Vechten, J.A., *Phys. Rev.*, 1969, **182**, 891

Hongo, S., *J. Phys. Soc. Jpn.*, 1972, **32**, 1027, (*photoconductivity*)

O'Keefe, M. *et al.*, *Acta Cryst. B*, 1978, **34**, 3519, (*cryst struct*)