



>>Entry Name: Aluminium tellurides

Molecular Formula: [AlTe]

>>Variant: Aluminium telluride (Al₇Te₁₀)

CAS Registry Number: 110772-85-5

Molecular Formula: Al₇Te₁₀

Molecular Weight: 1464.87

Accurate Mass: 1487.933063

Percentage Composition: Al 12.89%; Te 87.11%

General Statement: Struct. contains [Te₄Al₄-Al₄Te₄] units with Al-Al bonds and Al₂Te₂ rings

Source/Synthesis: Synth. from elements at 927°

Physical Description: Air- and moisture-sensitive ruby red cryst.

>>Variant: Aluminium telluride (Al₂Te₃)

CAS Registry Number: 12043-29-7

Molecular Formula: Al₂Te₃

Molecular Weight: 436.763

Accurate Mass: 443.681765

Percentage Composition: Al 12.36%; Te 87.64%

General Statement: Wurtzite struct. with Al in two thirds of cation sites

Source/Synthesis: Synth. from elements at 1000°

Use/Importance: Source of H₂S (D₂S) as *in situ* reducing agent for aldehydes and enones. Commercially available

Physical Description: Dark grey solid (melt)

Melting Point: Mp 895°

Other Data: ΔH_f° -326 kJ mol⁻¹. Band gap E_g 2.2 eV. Conductance $1.85 \times 10^4 \Omega^{-1}m^{-1}$

References:

Kauer, E. *et al.*, *Z. Naturforsch., A*, 1958, **13**, 531, (*optical props*)

Steigmann, G.A. *et al.*, *Acta Cryst.*, 1966, **20**, 617, (*cryst struct*)

Gromakov, S.D. *et al.*, *Russ. J. Phys. Chem. (Engl. Transl.)*, 1972, **46**, 91, (*props*)

Said, H. *et al.*, *J. Less-Common Met.*, 1976, **46**, 209, (*thermodyn*)

Kambe, N. *et al.*, *Angew. Chem., Int. Ed.*, 1980, **19**, 1009, (*use*)

Nesper, R. *et al.*, *Z. Naturforsch., B*, 1987, **42**, 557, (*synth, cryst struct*)