



>>Entry Name: Gallium tellurides

Molecular Formula: [GaTe]

>>Variant: Gallium telluride (GaTe)

CAS Registry Number: 12024-14-5

Molecular Formula: GaTe

Molecular Weight: 197.323

Accurate Mass: 198.831809

Percentage Composition: Ga 35.33%; Te 64.67%

General Statement: Isostructural with Gallium sulfide [HSQ86-Y](#)

Source/Synthesis: Synth. from elements at 1100°

Physical Description: Black greasy solid

Melting Point: Mp 835°

Fluka: 48565

>>Variant: Gallium(III) telluride (Ga₂Te₃)

CAS Registry Number: 12024-27-0

Molecular Formula: Ga₂Te₃

Molecular Weight: 522.246

Accurate Mass: 527.569847

Percentage Composition: Ga 26.70%; Te 73.30%

General Statement: Has defect zinc blende struct.

Source/Synthesis: Synth. from elements

Physical Description: Black hard brittle solid

Melting Point: Mp 790°

Other Data: Band gap E_g 1.4 eV

>>Variant: Gallium telluride (Ga₂Te₅)

CAS Registry Number: 63691-46-3

Molecular Formula: Ga₂Te₅

Molecular Weight: 777.446

Accurate Mass: 787.382305

Percentage Composition: Ga 17.94%; Te 82.06%

General Statement: Struct. contains GaTe₄ tetrahedra, with fifth Te at centre of Te₄ square

Source/Synthesis: Synth. from elements at 400-495°

Physical Description: Black cryst.

References:

Klemm, W. *et al.*, *Z. Anorg. Allg. Chem.*, 1934, **214**, 45, (*synth, props, GaTe, Ga₂Te₃*)

Hahn, H. *et al.*, *Z. Anorg. Allg. Chem.*, 1949, **259**, 135, (*cryst struct, Ga₂Te₃*)

Kauer, E. *et al.*, *Z. Naturforsch., A*, 1958, **13**, 531, (*optical props, Ga₂Te₃*)

Panish, M.B. *et al.*, *J. Electrochem. Soc.*, 1967, **114**, 1161, (*phase diagram*)

Phillips, J.C. *et al.*, *Phys. Rev.*, 1969, **188**, 1225, (*struct, optical props*)

Gromakov, S.D. *et al.*, *Russ. J. Phys. Chem. (Engl. Transl.)*, 1972, **46**, 91, (*props, Ga₂Te₃*)

Bastow, T.J. *et al.*, *J. Magn. Reson.*, 1975, **20**, 1, (*nqr, GaTe*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **2**, 861, (*synth, GaTe, Ga₂Te₃*)

Alapini, F. *et al.*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1976, **282**, 543, (*phase diagram, Ga₂Te₃*)

Julien-Pouzol, M. *et al.*, *Acta Cryst. B*, 1977, **33**, 2270, (*synth, cryst struct, Ga₂Te₃*)

Alapini, F. *et al.*, *J. Solid State Chem.*, 1979, **28**, 309, (*GaTe, Ga₂Te₅, phase diagram*)