



>>Entry Name: Arsenic sulfide (As₂S₅), 9Cl, 8Cl

Synonym(s): Diarsenic pentasulfide. Arsenic pentasulfide (incorr.). Arsenic(V) sulfide

CAS Registry Number: 1303-34-0

As₂S₅

Molecular Formula: As₂S₅

Molecular Weight: 310.173

Accurate Mass: 309.703538

Percentage Composition: As 48.31%; S 51.69%

General Statement: Exists in crystalline and vitreous forms

Source/Synthesis: Synth. by reaction of orthoarsenate solns. + H₂S; or Na₃AsS₄ aq. + H⁽⁺⁾

Use/Importance: Employed in photoimagery. Acoustooptic modulator material

Physical Description: Yellow solid. Dec. in air at *ca.* 95° → S + Arsenic sulfide (As₂S₃) [HTH57-E](#)

Other Data: Boiling H₂O → As₂O₃ + S + As₂S₃. Dissolves in solns. of metallic (eg. Gp. I) sulfides giving thioarsenates

Hazard & Toxicity: Flammable as dust; explosive with powerful oxidants

References:

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