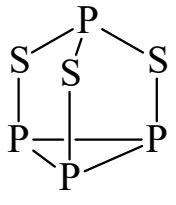
>>**Entry Name: Phosphorus sulfide (P_4S_3),** 9Cl, 8Cl
Synonym(s): Tetraphosphorus trisulfide. 3,5,7-Trithia-1,2,4,6-tetraphosphatricyclo[2.2.1.$0^{2,6}$]heptane, 9Cl, 8Cl



CAS Registry Number: 15578-15-1
Extra CAS Registry Numbers(s): 1314-85-8

Molecular Formula: P_4S_3
Molecular Weight: 220.093
Accurate Mass: 219.811258
Percentage Composition: P 56.29%; S 43.71%

>>**Variant:** α-form

Molecular Formula: P_4S_3
Molecular Weight: 220.093
Accurate Mass: 219.811258
Percentage Composition: P 56.29%; S 43.71%

Source/Synthesis: Synth. from red P + S or by thermolysis of Phosphorus sulfide (P_4S_7) HTK63-S
Physical Description: Orthorhombic cryst.; transforms into plastic form at 38° (39-41°). Yellowish green cryst. (CS_2 or C_6H_6). Stable in air, and at 600° in absence of O_2 or moisture. Dec. by hot H_2O
Melting Point: Mp 173-174.5°
Boiling Point: Bp 407-0° , Bp_{10} 225-240°
Solubility: Sol. C_6H_6; v. sol. CS_2
Other Data: ΔH°_{298} –151.6 (–133) kJ mol^{-1}
Hazard & Toxicity: May be flammable in air at 100°

>>**Variant:** β-form
Synonym(s): Plastic phase

Molecular Formula: P_4S_3
Molecular Weight: 220.093
Accurate Mass: 219.811258
Percentage Composition: P 56.29%; S 43.71%

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