



>>Entry Name: Chromium phosphides

Molecular Formula: [CrP]

>>Variant: Chromium phosphide (Cr₃P), 9Cl

CAS Registry Number: 12190-93-1

Molecular Formula: Cr₃P

Molecular Weight: 186.962

Accurate Mass: 186.795289

Percentage Composition: Cr 83.43%; P 16.57%

General Statement: Isomorphous with Fe₃P

Source/Synthesis: Phase in the system Cr-P

Physical Description: Light green powder. Paramagnetic

>>Variant: Chromium phosphide (Cr₂P), 9Cl

CAS Registry Number: 12268-15-4

Molecular Formula: Cr₂P

Molecular Weight: 134.966

Accurate Mass: 134.85478

Percentage Composition: Cr 77.05%; P 22.95%

Source/Synthesis: Phase in the Cr-P system

>>Variant: Chromium phosphide (CrP), 9Cl

CAS Registry Number: 26342-61-0

Molecular Formula: CrP

Molecular Weight: 82.97

Accurate Mass: 82.914271

Percentage Composition: Cr 62.67%; P 37.33%

General Statement: Has an MnP-like struct.

Source/Synthesis: Prepd. by heating Cr and red P to 1000°

Physical Description: Solid with a metallic appearance. Good elec. conductor

>>Variant: Chromium phosphide (CrP₂), 9Cl

CAS Registry Number: 41273-32-9

Molecular Formula: CrP₂

Molecular Weight: 113.944

Accurate Mass: 113.888033

Percentage Composition: Cr 45.63%; P 54.37%

Source/Synthesis: A high-pressure phase in the Cr-P system. Prepd. from the elements at 6.5×10^4 atm. and 1200°

Physical Description: Black, brittle cryst. Shows good metallic conductivity

References:

Nowotny, H. *et al.*, *Z. Anorg. Allg. Chem.*, 1938, **239**, 14, (*synth, cryst struct, Cr₃P*)

Faller, F.E. *et al.*, *Z. Anorg. Allg. Chem.*, 1941, **248**, 209, (*formn, Cr₂P*)

Rundquist, S. *et al.*, *Acta Chem. Scand.*, 1962, **16**, 287; 1965, **19**, 1006, (*synth, cryst struct, CrP*)

Ripley, R.L., *J. Less-Common Met.*, 1962, **4**, 496, (*synth, props, CrP*)

Gambino, R.J. *et al.*, *J. Appl. Phys.*, 1967, **38**, 1253, (*magnetism, Cr₃P*)

Scott, B.A. *et al.*, *J. Chem. Phys.*, 1968, **48**, 263, (*synth, P-31 nmr, CrP*)

Selte, K. *et al.*, *Acta Chem. Scand.*, 1972, **26**, 4188, (*struct, magnetism, CrP*)

Owusu, M. *et al.*, *Phys. Scr.*, 1972, **6**, 67, (*cryst struct, Cr₃P*)

Jeitschko, W. *et al.*, *Acta Cryst. B*, 1973, **29**, 783, (*synth, cryst struct, CrP₂*)

Motojima, S. *et al.*, *J. Cryst. Growth*, 1985, **71**, 639, (*synth, Cr₃P*)