Spinel Group
$A^{2+}B^{3+}{}_2O_4$

The members of the spinel group consist of cubic close-packed oxygens with metal cations in tetrahedral and octahedral sites between the layers of oxygen. The three major series of the spinel group are defined based on the identity of the trivalent cation: in the spinel series it is Al, in the magnetite series it is Fe^{3+}, and in the chromite series it is Cr.

Identification:
Hand Sample: Isometric. Spinel series: color – spinel – green, blue, or red; pleonaste – green to blue-green; Hercynite – dark green; Picotite – olive brown to brown; Gahnite – blue-green, yellow, or brown; Galaxite – red-brown or black.
Thin section: Plane light: Very high positive relief. Color in thin section generally follows color in hand sample.
Crossed polars: Isotropic