



Minerals

Sphalerite

(Zn,Fe) S

Crystallography:

Isometric; $43m$. Crystals usually tetrahedral or dodecahedral and often distorted and complex; rough, curved faces common. Usually in cleavable masses, coarse to fine granular.

Physical Properties:

Cleavage: {011} perfect, but may be too fine-grained to show cleavage. Fracture conchoidal; brittle.

Hardness: 3.5-4.0.

Specific Gravity: 3.9-4.1.

Luster: Nonmetallic and resinous to submetallic.

Color: Commonly brown, black-yellow. Transparent to translucent.

Streak: Brown to light yellow.

Composition/Features:

A zinc sulfide nearly always containing some iron. Sphalerite is often identified with difficulty because of its variable color. Usually recognized by its resinous luster, hardness, and perfect cleavage. Fusible with difficulty at 5. Dissolves in HCl to produce hydrogen sulfide.

Occurrence/Use:

A common and important ore mineral of zinc. Often found associated with galena and in hydrothermal veins in igneous rocks and contact metamorphic deposits. The primary zinc ore used chiefly in galvanizing iron, making brass, in batteries, paints, and wood.