



>>Entry Name: Iron(II) sulfide (FeS)

Synonym(s): Troilite. Ferrous sulfide. Iron protosulfide. Iron sulfuret

CAS Registry Number: 1317-37-9

Related CAS Registry Numbers(s): 1317-96-0 12063-66-0 12660-66-1

FeS

Molecular Formula: FeS

Molecular Weight: 87.913

Accurate Mass: 87.907009

Percentage Composition: Fe 63.53%; S 36.47%

Source/Synthesis: Synth. from Fe + S at red heat; found in lunar rock samples. Mineral (reacts acids to yield H₂S)

Use/Importance: Source of H₂S in laboratory. Used in ceramics, pigment, electrodes, lubricant coatings, modified cast iron

Physical Description: Brown-black solid. (colourless when pure)

Melting Point: Mp 1195°

Solubility: Sol. acids; insol. H₂O

Other Data: Dec. at Bp

Aldrich: 26870-4

Fluka: 44995

>>Variant: Iron sulfide (Fe₉S₈)

Synonym(s): Kansite

CAS Registry Number: 12500-02-6

Molecular Formula: Fe₉S₈

Molecular Weight: 759.151

Accurate Mass: 759.191011

Percentage Composition: Fe 66.21%; S 33.79%

Source/Synthesis: Sulfide corrosion product of steel pipes from sour oil well

>>Derivative: Mineral

Synonym(s): Mackinawite

CAS Registry Number: 66732-90-9

Extra CAS Registry Numbers(s): 12022-88-7

Molecular Formula: Fe₉S₈

Molecular Weight: 759.151

Percentage Composition: Fe 66.21%; S 33.79%

Source/Synthesis: Mineral occurs in eg. USA, Africa, Australia, Canada, India

Physical Description: Bronze, black solid or cryst.

Other Data: May contain nickel: (Fe,Ni)₉ S₈

>>Variant: Iron sulfide (Fe₁₁S₁₂)

Synonym(s): Undecairon dodecasulfide

CAS Registry Number: 12518-97-7

Molecular Formula: Fe₁₁S₁₂

Molecular Weight: 999.109

Accurate Mass: 998.949169

Percentage Composition: Fe 61.49%; S 38.51%

Physical Description: Bronze-yellow to brown cryst.

>>Derivative: Mineral

Synonym(s): Pyrrhotite

CAS Registry Number: 1310-50-5

Extra CAS Registry Numbers(s): 12305-96-3

Source/Synthesis: Occurs widely, usually with pyrites and other sulfides

Use/Importance: Ore of iron; used in H₂SO₄ manuf.

Physical Description: Brown-bronze cryst. with metallic lustre

Other Data: Formulated as Fe_{1-x}S, x = 0-0.17