

Desulphurisation agent		RIIC [%]	Chemical equation		
Iron(II) oxide	SBGx	77.73	FeO	+ H ₂ S →	FeS↓ + H ₂ O
Iron(III) oxide	SBGx	69.94	Fe ₂ O ₃	+ 3H ₂ S →	2FeS↓ + S↓ + 3H₂O
Iron(II,III) oxide		72.36	Fe ₃ O ₄	+ 4H ₂ S →	3FeS↓ + S↓ + 4H₂O
Iron(II) chloride		44.06	FeCl ₂	+ H ₂ S →	FeS↓ + 2 HCl ^A
Iron(III) chloride		34.43	2FeCl ₃	+ 3H ₂ S →	2FeS↓ + S↓ + 6HCl
Iron(III) oxide-hydroxide		62.85	2FeO(OH)	+ 3H ₂ S →	2FeS↓ + S↓ + 4H₂O
Iron(II) hydroxide		62.15	Fe(OH) ₂	+ H ₂ S →	FeS↓ + 2H ₂ O
Iron(III) hydroxide		52.26	2Fe(OH) ₃	+ 3H ₂ S →	2FeS↓ + S↓ + 6H₂O
Iron(III) oxide trihydrate		52.26	Fe ₂ O ₃ ·3H ₂ O	+ 3H ₂ S →	2FeS↓ + S↓ + 6H₂O

Also worth listing: Biological desulphurisation

O ₂ addition dosed correctly	O ₂	+ 2H ₂ S →	2S↓ + 2H₂O
O ₂ addition overdosed	2O ₂	+ H ₂ S →	H₂SO₄ ^B

Side note: Grünsalz

Iron(II) sulphate	36.76	FeSO ₄	+ H ₂ S →	FeS↓	+ H₂SO₄
-------------------	-------	-------------------	----------------------	-------------	--------------------------------------

^A Hydrogen chloride or Hydrochloric acid gas

^B Sulfuric acid

Note: The additional sulphur precipitation (S↓) with ferric agents depends on the utilisation of the oxidation power by a specific group of chemoautotrophic bacteria for respiration.

Damage caused by hydrogen chloride using iron chloride

