

Nomenclature of inorganic sulfur compounds

Simple oxyacids of sulfur and their salts

Simple oxyacids of sulfur

acid	summary formula	structural pattern	salt	older and trivial names
sulphuric acid	H ₂ SO ₃	File:Sulphuric acid.png	sulfite	
sulfuric acid	H ₂ SO ₄	File:Sulphuric acid.png	sulfate	<i>vitriol</i>

Peroxyacids and their salts

Peroxyacids have a peroxo group -O-O- instead of -O- oxygen in the molecule.

Sulfur peroxyacids

acid	summary formula	structural pattern	salt	older and trivial names
peroxysulfuric acid	H ₂ SO ₅	File:Peroxysulphuric acid.png	peroxysulfate	
peroxodisulfuric acid	H ₂ S ₂ O ₈	File:Peroxodisulfuric acid.png	peroxodisulphate	<i>persulphuric acid, persulphate</i>

Polyacids and their salts

Polyacids are theoretically formed by removing water from two molecules of a simple oxoacid (which is why they used to be called ``pyro *acids*).

Sulfur polyacids

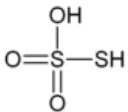
acid	summary formula	structural pattern	salt	older and trivial names
sulfuric acid	H ₂ S ₂ O ₅		disulfite	<i>pyrosulfuric, disulphurous acid; pyrosulfite, bisulfite</i>
disulfuric acid	H ₂ S ₂ O ₇	File:Disulfuric acid.png	disulfide	<i>pyrosulfuric acid, disulphurous; pyrosulfate, bisulfate</i>
peroxodisulfuric acid	H ₂ S ₂ O ₈	File:Peroxodisulfuric acid.png	peroxodisulphate	<i>persulphuric acid, persulphate</i>

Thioacids and their salts

Thioacids are theoretically formed by replacing oxygen -O- in oxyacid with sulfur -S-:

H₂SO₄ sulfuric acid - H₂S₂O₃ thiosulfuric acid.

Thioacids

acid	summary formula	structural pattern	salt	older and trivial names
thiosulfuric acid	H ₂ S ₂ O ₃		thiosulfate	
thiocyanate acid	HSCN	HS-C≡N	thiocyanate	"rhodanic acid, rhodanide"

Dithionic acid, thionic acids and their salts

These compounds contain a chain of several covalently linked sulfur atoms.

Dithionic acid, thionic acids

acid	summary formula	structural pattern	salt	older and trivial names
dithionic acid	H ₂ S ₂ O ₄	File:Dithionic acid.png	dithionite	
dithionic acid	H ₂ S ₂ O ₆	File:Dithionic acid.png	dithionan	
trithionic acid	H ₂ S ₃ O ₆	File:Trithionic acid.png	trithionan	
tetra-, penta-, hexathionic acid	H ₂ S _n O ₆	File:Thionic acids.png	tetra-, penta-, hexathione	

Hydrogen sulfide and sulfides

From hydrogen sulfide H_2S is derived the oxygen-free hydrogen sulfide with the same formula. Its salts are sulphides. Sulfur can also form polysulfides, e.g. FeS_2 iron disulfide (*pyrite*).

Links

References

- HIRŠOVÁ, Danuše. *Chemical Nomenclature. Basic rules of Czech, traditional Latin and international Latin pharmacopoeial nomenclature*. 2. edition. Prague : Charles University in Prague, Karolinum Publishers, 2004. ISBN 80-246-0761-1.
- National Center for Biotechnology Information. *The PubChem Project. PubChem Compound* [online]. [cit. 2009]. <<https://pubchem.ncbi.nlm.nih.gov/>>.