

A table of systematic mineralogy I: basic categories

Minerals consisting of uncharged atoms (i.e., in elemental state)	Minerals consisting of cations bonded to single anions (no radical groups or complex ions)	Minerals consisting of cations bonded to negatively-charged radical groups (i.e., to complex ions like CO_3^{2-} or AsS_3^{2-})																																											
	<p>Fluorides Fluorite (CaF_2)</p> <p>Halides ("Group VII -ides") (and thus minerals with 1- anions)</p> <p>Chlorides Halite ($NaCl$)</p> <p>Bromides Bromargyrite ($AgBr$)</p> <p>Iodides Iodargyrite (AgI)</p>	<p>Fluosalts: Fluoborates Ferruccite ($NaBF_4$) Fluosilicates Hieratite (K_2SiF_6)</p>	<p>Negative charge in mineral comes from halide anions</p>																																										
<p>Native elements</p> <p>Sulfur (S) Diamond (C) Copper (Cu)</p>	<p>Oxides Hematite (Fe_2O_3)</p> <p>"Group VI -ides" (and thus minerals with 2- anions)</p> <p>Sulfides Galena (PbS)</p> <p>Selenides Achavalite ($FeSe$)</p> <p>Tellurides Altaite ($PbTe$)</p>	<p>Oxysalts: Silicates Vanadates Arsenates Sulfites Borates Chromates Selenates Arsenites Carbonates Niobates Antimonates Selenites Nitrates Molybdates Tellurates Antimonites Phosphates Tantalates Iodates Tellurites Sulfates Tungstates Calcite ($CaCO_3$)</p> <p>Sulfosalts: Sulfarsenates Sulfovanadates Sulfogermanates Sulfarsenites Sulfantimonates Sulfantimonites Pyrrargyrite (Ag_3SbS_3) Sulfostannates Sulfobismuthites</p> <p>Seleniosalts: Selenioantimonates Permingeatite (Cu_3SbSe_4) Seleniobismuthites</p> <p>Tellurisalts: Telluribismuthites Volynskite ($AgBiTe_2$)</p>	<p>Negative charge in mineral comes from anions of Group VI elements. For more, see "Radical groups in minerals . . ."</p>																																										
<p>"Group V -ides" (and thus minerals with 3- anions)</p> <p>Nitrides Osbornite (TiN)</p> <p>Phosphides Barringerite (Fe,Ni)₂P</p> <p>Arsenides Löllingite ($FeAs_2$)</p> <p>Antimonides & Bismuthides Sobolevskite ($PdBi$)</p>		<p>Groups containing relatively abundant minerals are highlighted; examples of minerals for various groups are in gray.</p>	<p>Negative charge in mineral comes from anions of Group V and V elements</p>																																										
<p>"Group IV -ides" (and thus minerals with 4- anions)</p> <p>Carbides Moissanite (SiC)</p> <p>Silicides Guepéite (Fe_3Si)</p>		<p>A bit of the periodic table:</p> <table border="1" data-bbox="1444 1252 1797 1451"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>VIII</td> </tr> <tr> <td></td> <td>IV</td> <td>V</td> <td>VI</td> <td>VII</td> <td>He</td> </tr> <tr> <td>B</td> <td>C</td> <td>N</td> <td>O</td> <td>F</td> <td>Ne</td> </tr> <tr> <td>Al</td> <td>Si</td> <td>P</td> <td>S</td> <td>Cl</td> <td>Ar</td> </tr> <tr> <td></td> <td>Ge</td> <td>As</td> <td>Se</td> <td>Br</td> <td>Kr</td> </tr> <tr> <td></td> <td>Sn</td> <td>Sb</td> <td>Te</td> <td>I</td> <td>Xe</td> </tr> <tr> <td></td> <td>Pb</td> <td>Bi</td> <td>Po</td> <td>At</td> <td>Ra</td> </tr> </table>						VIII		IV	V	VI	VII	He	B	C	N	O	F	Ne	Al	Si	P	S	Cl	Ar		Ge	As	Se	Br	Kr		Sn	Sb	Te	I	Xe		Pb	Bi	Po	At	Ra	
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This table does not show hybrid categories that would include minerals like brenkite ($Ca_2CO_3F_2$) or kermesite (Sb_2S_2O). It also does not show H^+ -bearing minerals; their inclusion would best be shown with a third dimension leading to hydroxides, bicarbonates, bisulfates, etc.