

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>Native elements</p> <p>Sulfur (S) Diamond (C) Copper (Cu)</p>	<p>Fluorides Fluorite (CaF₂)</p> <p>Chlorides Halite (NaCl)</p> <p>Bromides Bromargyrite (AgBr)</p> <p>Iodides Iodargyrite (AgI)</p>	<p>Fluosalts: Ferruccite (NaBF₄) Hieratite (K₂SiF₆)</p>																																																													
	<p>Halides ("Group VII -ides") (and thus minerals with 1- anions)</p>	<p>Oxides Hematite (Fe₂O₃)</p>	<p>Oxysalts: Carbonates Nitrates Phosphates Sulfates</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>Sulfates Vanadates Chromates Niobates Molybdates Tantalates Tungstates</p> <p>Arsenates Selenates Antimonates Tellurates Iodates Calcite (CaCO₃)</p> <p>Sulfites Arsenites Selenites Antimonites Tellurites</p>																																																												
	<p>"Group V -ides" (and thus minerals with 3- anions)</p> <p>Antimonides & Bismuthides</p>	<p>Nitrides Osbornite (TiN)</p> <p>Phosphides Barringerite (Fe,Ni)₂P Löllingite (FeAs₂)</p> <p>Carbides Moissanite (SiC)</p> <p>Silicides Guseite(Fe₃Si)</p>	<p>Sulfostannates Sulfobismuthites</p> <p>Sulfogermanates Sulfantimonites Sulfantimonites Sulfobismuthites</p> <p>Sulfovanadates Sulfarsenites Sulfantimonites Sulfobismuthites</p> <p>Selenioantimonates Seleniobismuthites</p> <p>Permanganate (Cu₃SbSe₄)</p> <p>Pyrrargyrite (Ag₃SbS₃)</p> <p>Volynskite (AgBiTe₂)</p>																																																												
<p>"Group IV -ides" (and thus minerals with 4- anions)</p>	<p>Antimonides & Bismuthides Sobolevskite (PdBi)</p>	<p>Tellurites Telluribismuthites</p>																																																													
<p>Groups containing relatively abundant minerals are highlighted; examples of minerals for various groups are in gray.</p>		<p>A bit of the periodic table:</p> <table border="1" style="margin-left: auto; margin-right: auto; text-align: center;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>VIII</td></tr> <tr><td></td><td></td><td></td><td>IV</td><td>V</td><td>VI</td><td>VII</td><td>He</td></tr> <tr><td></td><td></td><td></td><td>B</td><td>C</td><td>N</td><td>O</td><td>F</td><td>Ne</td></tr> <tr><td></td><td></td><td></td><td>Al</td><td>Si</td><td>P</td><td>S</td><td>Cl</td><td>Ar</td></tr> <tr><td></td><td></td><td></td><td></td><td>Ge</td><td>As</td><td>Se</td><td>Br</td><td>Kr</td></tr> <tr><td></td><td></td><td></td><td></td><td>Sn</td><td>Sb</td><td>Te</td><td>I</td><td>Xe</td></tr> <tr><td></td><td></td><td></td><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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<p>This table does not show hybrid categories that would include minerals like breckite (Ca₂CO₃F₂) or kermesite (Sb₂S₂O). It also does not show H⁺-bearing minerals; their inclusion would best be shown with a third dimension leading to hydroxides, bicarbonates, bisulfates, etc.</p>		<p>Negative charge in mineral comes from anions of Group VI elements. For more, see "Radical groups in minerals . . ."</p> <p>Negative charge in mineral comes from anions of Group IV and V elements</p>																																																													