

Useful Primitive Radio Detector Minerals

H.P. Friedrichs, AC7ZL

Mineral	Chemical Composition	Chemical Formula	Crystal Category	Suitable Contacts	PW (1925)	Eccles (1928)	Toricata (1910)	Morgan (1913)
Allemontite	Arsenic antimonide	AsSb	Antimonide				x	
Anatase	Titanium dioxide	TiO ₂	Oxide	Metals and Zincite	x		x	
Antimony	Element	Sb	Element	Zincite, silicon, etc.	x			
Argentite (silver glance)	Silver sulfide	Ag ₂ S	Sulfide	Metals, graphite, tellurium	x			
Arkansite	See Anatase						x	
Arsenic	Element	As	Element	Metals and Zincite	x	x	x	
Arsenic pyrites	See Mispickel						x	
Bornite (peacock ore)	Sulfide of copper and iron	Cu ₅ FeS ₄	Sulfide	Zincite, silicon, etc.	x	x	x	x
Boron	Element	B	Element	Zincite, tellurium	x	x		
Boulangerite	Sulfide of antimony and lead	Pb ₅ Sb ₄ S ₁₁	Sulfosalt				x	
Bourmonite	Sulfide of copper, antimony and lead	PbCuSbS ₃	Sulfosalt	Zincite, tellurium, antimony, bismuth	x			
Brookite	See Anatase					x		x
Carborundum	Silicon Carbide	SiC		Steel, zincite	x			
Chalcopyrite	Sulfide of iron and copper	CuFeS ₂	Sulfide	Zincite (this combination is the famous Perikon detector)	x	x		x
Cobaltite	Cobalt arsenic sulfide	CoAsS		Zincite	x		x	
Cassiterite	Tin Oxide	SnO ₂	Oxide	Metals	x		x	
Cerussite	Lead Carbonate	PbCo ₃	Carbonate	?		x		
Chalcocite (copper glance)	Copper sulfide	Cu ₂ S	Sulfide	Zincite, tellurium	x	x	x	
Copper pyrites	Sulfide of iron and copper	CuFeS ₂	Sulfide	Zincite (this combination is the famous Perikon detector)	x		x	
Corundum	Aluminum oxidde	Al ₂ O ₃	Oxide	Zincite, bornite	x			

Sheet 1

Covellite	Copper sulfide	CuS	Sulfide	Zincite, etc	x		x	
Cuprite (Cuprous oxide)	Copper oxide	Cu ₂ O	Oxide	Tellurium, antimony, etc	x	x		
Domeykite	Copper arsenide	Cu ₃ As	Arsenide				x	x
Enargite	Sulfide of copper and arsenic	Cu ₃ AsS ₄	Sulfosalt				x	
Erubescite	See Bornite				x			
Frieslebenite	Sulfide of antimony, silver, and lead	PbAgSbS ₃ (composition varies)	Sulfide	Zincite, silicon	x			
Galena	Lead sulfide	PbS	Sulfide	Metals, graphite, galena, silicon	x	x	x	x
Graphite	Element	C	Element	Zincite, galena, molybendite, silicon	x	x	x	
Hematite	Iron Oxide	Fe ₂ O ₃	Oxide	Zincite, most sulfide materials	x			
Hessite	Telluride of silver or gold							x
Hystatite	See Ilmenite						x	
Ilmenite	Oxide of iron and titanium	FeTiO ₃	Oxide	Metals, silicon	x		x	
Iridosmine	Native alloy of iridium and osmium	Composition varies	Alloy				x	
Iserine	See Ilmenite						x	
Iron Pyrites	Iron sulfide	FeS ₂	Sulfide	Metals, silicon, zincite, tellurium	x	x	x	x
Lollingite	Iron arsenide	FeAs ₂ plus other metals	Arsenide				x	
Magnetite	Magnetic iron oxide	Fe ₃ O ₄	Oxide	Silicon, carbon, etc	x		x	
Marcasite	Iron sulfide (containing arsenic)	FeS ₂ with As	Sulfide	Similar to iron pyrites	x		x	
Melaconite	See Tenorite						x	
Meteorite	Iron/Nickel mixture	Composition varies	Alloy				x	

Sheet1

Mispickel	Sulfide of iron and arsenic	FeAsS ₂	Sulfide	Similar to iron pyrites	x			
Molybdenite	Molybdenum sulfide	MoS ₂	Sulfide	Silver, graphite	x	x	x	x
Nagyagite		Pb ₅ A(Te,Sb) ₄ S ₅₋₈)	Sulfosalt				x	
Niccolite	Nickel arsenide	NiAs	Arsenide				x	x
Octahedrite	See Anatase				x			x
Plattnerite	Lead peroxide	PbO ₂	Oxide	Lead				x
Psilomelane	Manganese oxide	Mn ₂ O ₃ H ₂ O	Oxide	Zincite, metals	x	x	x	
Pyrolusite	Manganese dioxide	MnO ₂	Oxide	Zincite, metals	x		x	
Pyrrhotite	See Iron Pyrites				x		x	
Schwartzite	Compound of copper, lead, antimony and arsenic	Composition varies					x	
Siegenite	Nickel cobalt sulfide	(Ni,Co) ₃ S ₄	Sulfide				x	
Silicon	Element	Si	Element	Metals, zincite, iron pyrites, etc	x	x		x
Smaltine (Smaltite)	Arsenide of cobalt, iron and nickel	(Co,Fe,Ni)As ₂	Arsenide	?		x	x	
Stannite	Mixture of iron, copper, and tin sulfides	Composition varies	Sulfide	Zincite, etc	x			
Stibnite	Antimony sulfide	Sb ₂ S ₃	Sulfide	Zincite, etc	x			x
Stromeyerite	Sulfide of copper and silver	CuAgS	Sulfide	Zincite and some metals	x			
Strutterudite	Cobalt arsenide with nickel and iron	(Co,Ni,Fe)As ₃	Arsenide				x	
Sylvanite	Silver gold telluride	(Ag,Au)Te ₂	Telluride				x	
Tantalum	Element	Ta	Element	Mercury				x
Tellurium	Element	Te	Element	Zincite, aluminum, silicon	x	x		
Tennantite	Sulfide of copper iron and arsenic	(Cu,Fe) ₁₂ As ₄ S ₁₃	Sulfosalt				x	
Tenorite (Copper Oxide)	Copper oxide	CuO	Oxide				x	
Tin pyrites	See Stannite							
Ullmanite	Nickel arsenic sulfide	NiAsS	Sulfide				x	

Sheet1

Wad	Manganese oxides or hydroxides	Composition varies	Oxide or hydroxide				x	
Zinc blende (sphalerite)	Sulfide of zinc and iron	(Zn,Fe)S	Sulfide				x	
Zincite	Zinc oxide, containing manganese	ZnO	Oxide	Almost any contact	x	x	x	x
Zirconium	Element	Zr	Element	Can be used in place of tellurium or antimony	x			x