

Abbreviations for names of rock-forming minerals

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Nearly 30 years have elapsed since Kretz (1983) provided the mineralogical community with a systematized list of abbreviations for rock-forming minerals and mineral components. Its logic and simplicity have led to broad acceptance among authors and editors who were eager to adopt a widely recognized set of mineral symbols to save space in text, tables, and figures.

Few of the nearly 5000 known mineral species occur in nature with a frequency sufficient to earn repeated mention in the geoscience literature and thus qualify for the designation “rock-forming mineral,” but a reasonable selection of the most common and useful rock-forming minerals likely numbers in the several hundreds. The original list by Kretz (1983) contained abbreviations for 193 of these.

We propose an expansion to the list initiated by Kretz (1983) (see next page). Modest expansions and revisions were made by Spear (1993), Holland and Powell (1998), the Mineralogical Association of Canada, and Siivola and Schmid (2007). Our revised list of abbreviations has 371 entries. Significant numbers of the new entries are the result of three decades of research in high- and ultrahigh-pressure metamorphic terrains, the explicit inclusion of Mg and Fe end-members of solid-solution series (as in the amphiboles), recent work on extraterrestrial samples, and the increased relevance to petrology of numerous accessory minerals.

The two systems of abbreviations currently most in use—Kretz (1983), including modifications; and Holland and Powell (1998)—differ in terms of style and concept. Kretz abbreviations are 2–3 letters and use uppercase first letters for minerals and lower case letters throughout for mineral components (e.g., the almandine component of garnet); the Holland and Powell system varies from 1–5 letters and uses lowercase throughout. The Kretz system provides abbreviations for selected intermediates in solid-solution mineral series. The Holland and Powell system is restricted to abbreviations for end-members for which there are available thermodynamic data that have been included in the Holland and Powell database. The two systems have the same abbreviations for some minerals (other than capitalization), but in many cases use different symbols for the same mineral, for example, “Crn” (Kretz) and “cor” (H&P).

The selection of minerals to include in a list of abbreviations is subjective, but we have tried to err on the side of being inclusive, listing some minerals for which the status is questionable according to the International Mineralogical Association. For example, we accommodate alternative choices such as titanite (Ttn) and sphene (Spn); hypersthene (Hyp), enstatite (En), and orthopyroxene (Opx); glaucophane (Gln), crossite (Crt), and

riebeckite (Rbk); and albite (Ab) and anorthite (An) as well as plagioclase (Pl), recognizing that some petrologists have uses for these mineral names. In addition, although our focus is on rock-forming minerals, some hypothetical and/or synthetic phases are included in our list, as well as an abbreviation for “liquid” (Liq). We have also included some abbreviations for mineral groups, e.g., aluminosilicates (Als, the Al₂SiO₅ polymorphs), and other descriptive terms (e.g., opaque minerals). The choice of abbreviations attempts as much as possible to make the identity of the mineral instantly obvious and unambiguous.

UPDATED LIST OF MINERAL ABBREVIATIONS

In this contribution, abbreviations from Kretz (with some modifications) and new abbreviations are listed (Table 1, next page). The following format was used for assigning abbreviations:

- (1) The first letter is capitalized; the other letter(s) are lower case, with the exception of Phase A, abbreviated as PhA.
- (2) The first letter of the abbreviation is the first letter of the mineral name; subsequent letters are selected from the mineral name.
- (3) Most abbreviations consist of 2 or 3 letters, but a 4-letter abbreviation is used when the addition of F for ferro- or M for magnesio- resulted in ambiguity in the 3-letter version (e.g., Mear for magnesiocarpholite).
- (4) Mineral abbreviations were selected so as not to correspond to abbreviations for elements. Note that rule 4 was violated by a few of the original Kretz abbreviations (Mo for molybdenite; Ne for nepheline), so some original Kretz abbreviations have been changed to follow this rule. Others have been modified to avoid ambiguity with minerals added to the list.

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TABLE 1. Updated list of abbreviations

Symbol	Mineral Name	IMA status*	Symbol	Mineral Name	IMA status*	Symbol	Mineral Name	IMA status*
Acm	acmite	D	Chu	clinohumite	G	Ged	gedrite	Rd
Act	actinolite	A	Cpt	clinoptilolite	A	Gh	gehlenite	G
Adl	adularia	I	Cpx	clinopyroxene	GROUP	Gk	geikielite	G
Aeg	aegirine	A	Czo	clinozoisite	G	Gbs	gibbsite	A
Ak	åkermanite	G	Cln	clintonite	A	Gis	gismondine	A
Ab	albite	G	Coe	coesite	A	Glt	glauconite	GROUP
Afs	alkali feldspar	GROUP	Coh	cohenite	G	Gln	glaucophane	Rd
Aln	allanite	A	Crd	cordierite	G	Gme	gmelinite	A
Alm	almandine	G	Crr	corrensie	G	Gth	goethite	A
Als	aluminosilicate (Al ₂ SiO ₅ polymorphs)	GROUP	Crn	corundum	G	Gdd	grandierite	G
Alu	alunite	Rd	Cv	covellite	G	Gr	graphite	G
Amk	amakinite	Rd	Crs	cristobalite	G	Gre	greenalite	G
Ame	amesite	G	Crt	crossite	D	Grs	grossular	A
Amp	amphibole	GROUP	Crl	cryolite	G	Gru	grunerite	Rd
Anl	analcime (analcite)	A	Cbn	cubanite	G	Gp	gypsum	G
Ant	anatase	A	Cum	cummingtonite	Rd			
And	andalusite	G	Cpr	cuprite	G	HI	halite	G
Adr	andradite	G	Csp	cuspidine	G	Hrm	harmotome	A
Ang	anglesite	G				Hst	hastingsite	Rd
Anh	anhydrite	G	Dph	daphnite	not listed	Hsm	hausmannite	G
Ank	ankerite	G	Dat	datolite	G	Hyn	haüyne	G
Ann	annite	A	Dbr	daubreeite	G	Hzl	heazlewoodite	G
An	anorthite	G	Dee	deerite	A	Hd	hedenbergite	A
Ano	anorthoclase	I	Dia	diamond	G	Hem	hematite	A
Ath	anthophyllite	Rd	Dsp	diaspore	G	Hc	hercynite	G
Atg	antigorite	Rn	Dck	dickite	G	Hul	heulandite	A
Ap	apatite	GROUP	Dg	digenite	A	Hbn	hibonite	G
Apo	apophyllite	GROUP	Di	diopside	A	Hbs	hibschite	Rn
Arg	aragonite	G	Dpt	diopase	G	Hgb	högbomite	D
Arf	arfvedsonite	A	Dol	dolomite	G	Hol	hollandite	G
Arm	armalcolite	Rd	Drv	dravite	G	Hlm	holmquistite	Rd
Apy	arsenopyrite	A	Dum	dumortierite	G	Hbl	hornblende	GROUP
Aug	augite	A				Hw	howieite	A
Awr	awaruite	G	Eas	eastonite	Rd	Hu	humite	G
Ax	axinite	GROUP	Ec	ecandrewsite	A	Hgr	hydrogrossular	GROUP
			Eck	eckermannite	A	Hyp	hypersthene	D
			Ed	edenite	A			
Bab	babingtonite	G	Elb	elbaite	G	Ill	illite	GROUP
Bdy	baddeleyite	G	Ell	ellenbergerite	A	Ilm	ilmenite	G
Brt	barite (baryte)	A	Eng	enargite	G	Ilv	ilvaite	G
Brs	barroisite	Rd	En	enstatite (ortho-)	A			
Bei	beidellite	G	Ep	epidote	GROUP	Jd	jadeite	A
Brl	beryl	G	Eri	erionite	A	Jrs	jarosite	Rd
Bt	biotite	GROUP	Esk	eskolaite	G	Jim	jimthompsonite	A
Bxb	bixbyite	G	Ess	esseneite	A	Jhn	johannsenite	A
Bhm	böhmite (boehmite)	G	Eud	eudialite	A			
Bn	bornite	A				Krs	kaersutite	Rd
Brk	brookite	G	Fas	fassaite	D	Kls	kalsilite	G
Brc	brucite	G	Fa	fayalite	G	Kam	kamacite (α-FeNi)	D
Bst	bustamite	G	Fsp	feldspar	GROUP	Kln	kaolinite	A
			Fac	ferro-actinolite	Rd	Ktp	kataphorite	Rd
Cal	calcite	G	Fath	ferro-anthophyllite	Rd	Kfs	K-feldspar	informal
Ccn	cancrinite	G	Fbrs	ferrobarroisite	A	Khl	K-hollandite	H
Cnl	cannilloite	H	Fcar	ferrocarpholite	A	Kir	kirschsteinite	G
Cb	carbonate mineral	GROUP	Fcel	ferroceladonite	A	Krn	kornerupine	G
Car	carpholite	G	Fec	ferro-eckermannite	Rd	Kos	kosmochlor	A
Cst	cassiterite	G	Fed	ferro-edenite	Rd	Kut	kutnohorite (kutnahorite)	G
Cel	celadonite	A	Fgd	ferrogedrite	Rd	Ky	kyanite	A
Clt	celestine	A	Fgl	ferroglaucophane	Rd			
Cls	celsian	G	Fkrs	ferrokaersutite	A	Lrn	larnite	G
Cer	cerussite	G	Fny	ferronyboite	H	Lmt	laumontite	A
Cbz	chabazite	A	Fprg	ferropargasite	Rd	Lws	lawsonite	G
Cct	chalcocite	G	Frct	ferrichterite	A	Lzl	lazulite	A
Ccp	chalcopyrite	G	Fs	ferrosilite	Rn	Lzr	lazarite	G
Chm	chamosite	G	Fts	ferrotschermakite	Rd	Lpd	lepidolite	GROUP
Chs	chesterite	A	Fwn	ferrowinchite	Rd	Lct	leucite	G
Chl	chlorite	GROUP	Fi	fibrolite (fibrous sillimanite)	informal	Lm	limonite	not listed
Cld	chloritoid	G	Fl	fluorite	G	Liq	liquid	
Chn	chondrodite	G	Fo	forsterite	G	Lz	lizardite	G
Chr	chromite	G	Fos	foshagite	G	Lo	löllingite (loellingite)	G
Ccl	chrysocolla	A	Frk	franklinite	G			
Ctl	chrysotile	Rd	Ful	fullerite	N	Mgh	maghemite	G
Cin	cinnabar	G				Marf	magnesio-arfvedsonite	Rd
Cam	clinoamphibole	GROUP	Ghn	gahnite	G	Mcar	magnesiocarpholite	A
Clc	clinochlore	G	Glx	galaxite	G	Mfr	magnesioferrite	G
Cen	clinoenstatite	A	Gn	galena	G	Mhs	magnesiohastingsite	Rd
Cfs	clinoferrosilite	A	Grt	garnet	GROUP	Mhb	magnesiohornblende	Rd
						Mkt	magnesiokataphorite	Rd

Symbol	Mineral Name	IMA status*	Symbol	Mineral Name	IMA status*	Symbol	Mineral Name	IMA status*
Mrbk	magnesioriebeckite	Rd	Pgt	pigeonite	A	Tae	taenite (γ-Fe, Ni)	G
Msdg	magnesiosadanagite	Rd	Pl	plagioclase	GROUP	Tlc	talc	G
Mst	magnesiostaurolite	A	Prh	prehnite	G	Trm	taramite	Rd
Mtm	magnesiostaramite	Rn	Prm	prismatine	Rd	Tnt	tennantite	G
Mws	magnesiowustite	not listed	Psb	pseudobrookite	Rd	Tnr	tenorite	A
Mgs	magnesite	A	Pmp	pumpellyite-(Al)	A	Tep	tephroite	G
Mag	magnetite	G	Py	pyrite	G	Ttr	tetrahedrite	A
Maj	majorite	A	Pcl	pyrochlore	A	Thm	thomsonite	A
Mlc	malachite	G	Prp	pyrope	G	Thr	thorite	G
Mng	manganosite	G	Pph	pyrophanite	G	Tly	tilleyite	G
Mrc	marcasite	G	Prl	pyrophyllite	G	Ttn	titanite (sphene)	A
Mrg	margarite	A	Pxf	pyroxferroite	A	Tpz	topaz	G
Mar	marialite	G	Pxm	pyroxmangite	G	Tur	tourmaline	GROUP
Mei	meionite	G	Po	pyrrhotite	G	Tr	tremolite	Rd
Mll	melilite	GROUP	Qnd	qandilite	A	Trd	tridymite	G
Mw	merwinite	G	Qz	quartz	A	Tro	troilite	G
Mes	mesolite	A	Rnk	rankinite	G	Ts	tschermakite	Rd
Mc	microcline	G	Rlg	realgar	G	Usp	ulvöspinel	G
Mr	millerite	G	Rds	rhodochrosite	A	Urn	uraninite	G
Mns	minnesotaite	G	Rdn	rhodonite	A	Uv	uvarovite	A
Mog	moganite	A	Rct	richterite	A	Vtr	vaterite	A
Mol	molybdenite	G	Rbk	riebeckite	Rd	Vrm	vermiculite	G
Mnz	monazite	A	Rwd	ringwoodite	A	Ves	vesuvianite	A
Mtc	monticellite	G	Rdr	roedderite	A	Wds	wadsleyite	A
Mnt	montmorillonite	G	Rsm	rossmanite	A	Wag	wagnerite	Rd
Mor	mordenite	A	Rt	rutile	G	Wrk	wairakite	A
Mul	mullite	G	Sdg	sadanagaite	Rd	Wav	wavellite	A
Ms	muscovite	A	Sa	sanidine	G	Wht	whitlockite	G
Ntr	natrolite	A	Sap	saquinite	G	Wlm	willmenite	G
Nph	nepheline	G	Spr	sapphirine	G	Wnc	winchite	Rd
Nrb	norbergite	G	Scp	scapolite	GROUP	Wth	witherite	G
Nsn	nosean	G	Sch	scheelite	G	Wo	wollastonite	A
Nyb	nyböite	Rd	Srl	schorl	G	Wur	wurtzite	G
Oi	olivine	GROUP	Scb	schreibersite	G	Wus	wüstite	G
Omp	omphacite	A	Sep	sepiolite	G	Xtm	xenotime	A
Opl	opal	G	Ser	sericite	D	Xon	xonotlite	G
Opq	opaque mineral	informal	Srp	serpentine	GROUP	Yug	yugawaralite	A
Orp	orpiment	G	Sd	siderite	G	Zeo	zeolite	GROUP
Oam	orthoamphibole	GROUP	Sil	sillimanite	G	Znw	zinnwaldite	GROUP
Or	orthoclase	A	Sme	smectite	GROUP	Zrn	zircon	G
Oen	orthoenstatite	D	Sdl	sodalite	G	Zo	zoisite	G
Opx	orthopyroxene	GROUP	Sps	spessartine	A	* International Mineralogical Association (IMA) abbreviations: A = Approved; D = Discredited; G = Grandfathered (generally regarded as valid mineral name); GROUP = Name designates a group of mineral species; H = hypothetical (e.g., synthetic); I = intermediate in a solid-solution series; Q = questionable; Rd = Redefinition approved by IMA Commission on New Minerals, Nomenclature and Classification (CNMNC); Rn = Renamed with approval of the CNMNC.		
Osm	osumilite	G	Sp	sphalerite	A			
Plg	palygorskite	G	Spn	sphene (titanite)	D			
Pg	paragonite	A	Spl	spinel	G			
Prg	pargasite	Rd	Spd	spodumene	A			
Pct	pectolite	G	Spu	spurrite	G			
Pn	pentlandite	G	St	staurolite	G			
Per	periclase	G	Stv	stevensite	Q			
Prv	perovskite	G	Stb	stilbite	A			
Ptl	petalite	G	Stp	stilpnomelane	A			
PhA	phase A	not listed	Sti	stishovite	A			
Ph	phengite	G	Str	strontianite	G			
Php	phillipsite	A	Sud	sudowite	Rd			
Phl	phlogopite	A	Syl	sylvite	G			
Pmt	piemontite	A						