

Table 3 - Chemical data for members of the various alkali feldspar series.

Feldspar	Weight % K ₂ O	Weight % Na ₂ O	N _{Or} (mole fraction KA1Si ₃ O ₈)	Feldspar	Weight % K ₂ O	Weight % Na ₂ O	N _{Or} (mole fraction KA1Si ₃ O ₈)
<u>High Sanidine Series</u>				<u>Adularia Series⁺⁺</u>			
7015	0.20	11.50	0.0113	7190	2.982*	168*	0.0103
(7010) ⁺	0.15	11.50	0.0085		3.000*	170	0.0103
8001	2.58	9.82	0.1474	7197	1.35	10.90	0.0753
	2.75	9.90	0.1545	8302	1.38	10.80	0.0775
7059	2.50	9.80	0.1437	7927	3.20	9.10	0.1879**
7919	4.85	8.40	0.2753	73011E	-	-	0.2308**
7057	6.20	7.55	0.3508	7917	4.45	8.40	0.2585**
8008	7.72	6.45	0.4406	73013E	-	-	0.3835
7044	8.55	5.60	0.5001	7914	8.60	5.85	0.4917
	8.52	6.04	0.4813	7196	9.50	5.40	0.5365
7058	10.80	4.75	0.5993	7918	11.50	3.60	0.6776
8034	12.20	2.92	0.7333	7007	14.50	1.55	0.8602
7060	13.70	2.15	0.8074	7198	-	-	0.8602 ⁺
7036	16.40	0.45	0.9600	7049	16.20	0.35	0.9682
				7045	16.40	0.03	0.9972
<u>Eifel Sanidine Series⁺⁺</u>				<u>Microcline Series</u>			
71102	0.05	11.40	0.0029	7010	0.15	11.50	0.0085
72003	2.70	9.92	0.1519	(7015) ⁺	0.20	11.50	0.0113
7105 ⁺	2.75	9.60	0.1586	8205	3.04	9.80	0.1695
8201	5.16	8.30	0.2903	8207	5.92	7.87	0.3311
	5.04	8.15	0.2892	8429	5.90	7.64	0.3369
8202	7.50	6.42	0.4346		5.75	7.65	0.3309
720018	9.43	4.96	0.5557	8047	8.56	5.80	0.4926
8203	11.70	3.17	0.7083	8204	11.50	3.98	0.6553
7002	14.40	1.86	0.8359	8206	14.20	1.92	0.8295
7052	16.40	0.09	0.9917	71104	16.30	0.01	0.9991
							0.9953
<u>Orthoclase Series</u>							
8431	0.25	12.00	0.0135				
	0.24	11.50	0.0135				
7735	1.90	10.10	0.1101				
7818	4.05	8.55	0.2376				
7815	5.10	7.75	0.3021				
7906	6.70	7.15	0.3814				
7905	8.00	6.05	0.4652				
7801	9.80	4.85	0.5707				
7908	12.30	3.50	0.6981				
7903	13.60	2.40	0.7885				
7814	15.00	1.45	0.8719				
B18938	16.20	0.75	0.9343				
7738	16.70	0.40	0.9649				

All analyses done using atomic absorption spectroscopy, by N. Suhr of the Pennsylvania State University (except as noted).

* PPM (not weight %) K and Na, analysis by Geochron, Inc.

** Composition calculated from weights and chemical compositions of the starting materials.

⁺#7015 is the disordered equivalent of #7010, and their compositions have been averaged and assumed to be the same. #72003 is the homogenized version of #7105; analyses for these also should be the same. #7198 is an annealed version of #7007 and is assumed to have the same composition.

⁺⁺Based on atomic absorption analyses mole fractions of BaAl₂Si₂O₈ in the Eifel Sanidine and Adularia series are calculated to be 0.012 and 0.007, respectively.

Table 2 - Detailed synthesis histories of feldspars from this investigation.

<u>Eifel Sanidine Series</u> (based on Eifel sanidine #7002)	
71102	I, 7002, 0, 865, 40 (71102).
72003	I, 7002, 0, 831, 26 (7105); H, 7105, 935, 90 (72003).
8201	I, 7002, 0, 831, 26 (7105); H, 7105 + 7002, 930, 250 (8201).
8202	I, 7002, 0, 831, 26 (7105); H, 7105 + 7002, 930, 250 (8202).
72001B	I, 7002, 0, 831, 26 (7105); H, 7105 + 7002, 935, 90 (72001B).
8203	I, 7002, 0, 831, 26 (7105); H, 7105 + 7002, 930, 250 (8203).
7052	I, 7002, 1, 824, 35 (7052).
<u>Orthoclase Series</u> (based on Madagascar orthoclase #B18938)	
8431	I, 7738 + B18938 + 7814 + 7903 + 7908 + 7906 + 7818; O, 846, 24.1 (8431).
7735	I, B18938, .053, 809, 10 (7734); H, 7734, 936, 120.1 (7735).
7818	I, B18938, .15, 800, 12 (7816); I, 7816, .15, 800, 11.9 (7817); H, 7817, 930, 120.4 (7818).
7815	I, B18938, .053, 816, 10.3 (7737); H, 7737, 930, 47 (7740); H, 7740 + B18938, 926, 120.2 (7815).
7906	H, 7735 + 7740 + 7801 + 7815 + 7818 + 7904, 936, 120 (7906).
7905	I, B18938, .19, 806, 15.1 (7902); I, 7902, .20, 805, 9.6 (7904); H, 7904 + B18938, 936, 123.4 (7905).
7801	I, B18938, .053, 816, 10.3 (7737); H, 7737, 930, 47 (7740); H, 7740 + B18938, 930, 120 (7801).
7908	I, B18938, .053, 806, 10.2 (7901); H, 7901 + B18938, 933, 120 (7903); I, B18938, .053, 805, 9.6 (7907); H, 7903 + 7907 + 7814 + B18938, 935, 120 (7908).
7903	I, B18938, .053, 806, 10.2 (7901); H, 7901 + B18938, 933, 120 (7903).
7814	I, B18938, .40, 809, 5.1 (7811); I, 7811 + B18938, .40, 803, 9.1 (7812); I, 7812, .40, 803, 11.9 (7813); H, 7813, 930, 120 (7814).
7738	I, B18938, 1, 807, 24.3 (7736); H, 7736, 832, 39.4 (7738).
<u>Adularia Series</u> (based on St. Gotthard adularia #7007)	
7190	I, 7007, 0, 865, 40 (7190).
7197, 8302	I, 7007, 0, 815, 30 (7184); H, 7184, 925, 121 (7197, 8302).*
7927	I, 7007, .053, 820, 10.7 (7920); I, 7920, .053, 820, 11.6 (7921); H, 7921, 910, 66 (7923); I, 7923 + 7007, .042, 785, 13 (7924); H, 7924, 917, 123.2 (7927).
73011E	I, 7007, 0, 815, 30 (7184); H, 7184 + 7007, 932, 120.5 (73011).
7917	I, 7007, .053, 844, 13.1 (7910); H, 7910, 928, 120 (7911); H, 7911, 928, 48.7 (7917).
73013E	I, 7007, 0, 815, 30 (7184); H, 7184 + 7007, 932, 120.5 (73013).
7914	I, 7007, .053, 844, 13 (7912); H, 7912, 910, 50.8 (7913); H, 7913, 910, 120 (7914).
7196C	I, 7007, 0, 815, 30 (7184); H, 7184 + 7007, 815, 121 (7196C).
7918	I, 7007, .053, 844, 13 (7912); H, 7912, 910, 50.8 (7913); H, 7913 + 7007, 910, 120.3 (7918).
7198	H, 7007, 925, 121 (7198).

7905 I, B18938, .19, 806, 15.1 (7902); I, 7902, .20, 805, 9.6 (7904);
H, 7904 + B18938, 936, 123.4 (7905).

7801 I, B18938, .053, 816, 10.3 (7737); H, 7737, 930, 47 (7740);
H, 7740 + B18938, 930, 120 (7801).

7908 I, B18938, .053, 806, 10.2 (7901); H, 7901 + B18938, 933,
120 (7903); I, B18938, .053, 805, 9.6 (7907); H, 7903 + 7907 +
7814 + B18938, 935, 120 (7908).

7903 I, B18938, .053, 806, 10.2 (7901); H, 7901 + B18938, 933,
120 (7903).

7814 I, B18938, .40, 809, 5.1 (7811); I, 7811 + B18938, .40, 803,
9.1 (7812); I, 7812, .40, 803, 11.9 (7813); H, 7813, 930,
120 (7814).

7738 I, B18938, 1, 807, 24.3 (7736); H, 7736, 832, 39.4 (7738).

Adularia Series (based on St. Gotthard adularia #7007)

7190 I, 7007, 0, 865, 40 (7190).

7197, 8302 I, 7007, 0, 815, 30 (7184); H, 7184, 925, 121 (7197, 8302).*

7927 I, 7007, .053, 820, 10.7 (7920); I, 7920, .053, 820, 11.6
(7921); H, 7921, 910, 66 (7923); I, 7923 + 7007, .042, 785,
13 (7924); H, 7924, 917, 123.2 (7927).

73011E I, 7007, 0, 815, 30 (7184); H, 7184 + 7007, 932, 120.5 (73011).

7917 I, 7007, .053, 844, 13.1 (7910); H, 7910, 928, 120 (7911);
H, 7911, 928, 48.7 (7917).

73013E I, 7007, 0, 815, 30 (7184); H, 7184 + 7007, 932, 120.5 (73013).

7914 I, 7007, .053, 844, 13 (7912); H, 7912, 910, 50.8 (7913);
H, 7913, 910, 120 (7914).

7196C I, 7007, 0, 815, 30 (7184); H, 7184 + 7007, 815, 121 (7196C).

7918 I, 7007, .053, 844, 13 (7912); H, 7912, 910, 50.8 (7913);
H, 7913 + 7007, 910, 120.3 (7918).

7198 H, 7007, 925, 121 (7198).

7049 I, 7007, 1, 808, 36.5 (7049).

7045 I, 7007, 1, 814, 42 (7045).

Microcline Series (based on Amelia low albite #7010)

8205 H, 7010 + 71104, 930, 242.0 (8205).

8207 H, 7010 + 71104, 937, 316.3 (8207).

8429 H, 7010 + 71104, 846 to 942, 252.0 (8429).

8047 H, 7010 + 71104, 941, 248.3 (8047).

8204 H, 7010 + 71104, 931, 246.2 (8204).

8206 H, 7010 + 71104, 929, 241.4 (8206).

71104 I, 7010, 1, 840, 16.5 (71104).

An "I" indicates a molten chloride ion-exchange experiment, and an "H" indicates a dry homogenization run. In the case of an ion-exchange run the number after the "I" is that of the feldspar(s) used as the starting material, followed by the composition of the salt (given by the mole fraction of KCl in the salt), the temperature (°C) and the duration (in hours) of the run. The bracketed number at the end is that of the resulting feldspar. In homogenization experiments the "H" is followed by the identification number(s) of the starting feldspar(s), the temperature (°C) and the duration of the run (hours), and the identity of the resulting feldspar.

*#7197 and 8302 were synthesized from the same parent material under identical conditions, but in different furnace runs.