

2.3 FELDSPAR FAMILY

FELDSPAR MINERLAS

- ✓ It is most abundant of all minerals
- ✓ It is used for making more than 50% by weight crust of earth
- ✓ It is non-metallic and silicate minerals

Chemical composition:

Varieties	Chemical composition
Soda feldspar	$\text{NaAlSi}_3\text{O}_8$
Potash feldspar	KAlSi_3O_8
Lime feldspar	$\text{CaAl}_2\text{Si}_2\text{O}_8$

Crystallization of feldspar:

1. Monoclinic system
2. Triclinic system

Classification / types of feldspar:

1. Crystal system
2. Chemical composition

i. Based on crystal system:

1. Monoclinic feldspars:

- a. Orthoclase : KAlSi_3O_8
- b. Sanidine : KAlSi_3O_8

2. Triclinic feldspars:

- a. Microcline : KAlSi_3O_8
Albite – Anorthite series

ii. Based on chemical composition:

1. Potash feldspar
2. Soda lime feldspar

1. Potash feldspars:

- i. Orthoclase : KAlSi_3O_8
- ii. Sanidine : KAlSi_3O_8
- iii. Microcline : KAlSi_3O_8

2. Soda lime feldspars:

- i. Plagioclase feldspars
- ii. Isomorphous series

Physical properties of Feldspar Minerals:

(Orthoclase, Albite, Microcline and Anorthite)

Sl.No	Mineral property	Orthoclase	Albite	Microcline	anorthite
1.	Crystal system	Monoclinic	Triclinic	Triclinic	Triclinic
2.	Colour	Colourless or flesh red	White, pink, grey, green, blue	White, pink, red	White or reddish
3.	Streak	White	Colourless	Colourless	Colourless
4.	Luster	Vitreous to sub vitreous	Vitreous to pearly	Vitreous	Sub vitreous
5.	Hardness	6	6	6	6
6.	Specific gravity	2.56 to 2.58	2.60 to 2.62	2.54 to 2.57	2.6
7.	Cleavage	2 sets of perfect cleavage	2 sets, perfect	2 sets, perfect	2 sets, perfect
8.	Fracture	-	-	-	-
9.	Optical properties	Optically negative	Optically positive	Optically negative	Optically negative
10.	Chemical composition	KAlSi_3O_8	$\text{NaAlSi}_3\text{O}_8$	KAlSi_3O_8	$\text{CaAl}_2\text{Si}_2\text{O}_8$
11.	Form / structure	Crystalline	Crystalline	Crystalline	Crystalline

ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY

Sl.No	Mineral property	Orthoclase	Albite	Microcline	anorthite
12.	Special properties	a. Transparent variety Adularia. b. High temperature variety Sanidine. c. Used as ceramic mineral .	a. Used as ceramic mineral. b. Used as an ornamental stone, when polished.	a. Amazon stone a, greenish variety used as semi precious stone. b. Used as ceramic mineral.	-

