

Silicate Mineral Associations

For each of the following minerals, tell what group it belongs to, which silicate subclass it is a member of, and whether it is hydrous (Y) or not (N). Hydrous minerals contain either H₂O or OH. For the feldspars, be sure to indicate K-spar or plagioclase. For the pyroxenes and amphiboles, indicate (under Group) if it is ortho or clino. For Al₂SiO₅ minerals, indicate the formula under “Group”. Also indicate minerals likely to be found in alkaline rocks.

Mineral	Alkaline?	Group	Subclass	Hydrous?
1. Kaolinite	<u>N</u>	<u>Clay</u>	<u>Phyllosilicate</u>	<u>Y</u>
2. Enstatite	<u>N</u>	<u>OPX</u>	<u>Inosilicate</u>	<u>N</u>
3. Kyanite	<u>N</u>	<u>Al₂SiO₅</u>	<u>Nesosilicate</u>	<u>N</u>
4. Fayalite	<u>N</u>	<u>Olivine</u>	<u>Nesosilicate</u>	<u>N</u>
5. Grossularite	<u>N</u>	<u>Garnet</u>	<u>Nesosilicate</u>	<u>N</u>
6. Augite	<u>N</u>	<u>CPX</u>	<u>Inosilicate</u>	<u>N</u>
7. Riebeckite	<u>Y</u>	<u>Clinoamphibole</u>	<u>Insilicate</u>	<u>Y</u>
8. Biotite	<u>N (Y)</u>	<u>Mica</u>	<u>Phyllosilicate</u>	<u>Y</u>
9. Nepheline	<u>Y</u>	<u>Feldspathoid</u>	<u>Tectosilicate</u>	<u>N</u>
10. Labradorite	<u>N (Y)</u>	<u>Plagioclase</u>	<u>Tectosilicate</u>	<u>N</u>
11. Hornblende	<u>N</u>	<u>Clinoamphibole</u>	<u>Inosilicate</u>	<u>Y</u>
12. Wollastonite	<u>N</u>	<u>Pyroxenoid</u>	<u>Inosilicate</u>	<u>N</u>
13. Diopside	<u>N</u>	<u>CPX</u>	<u>Inosilicate</u>	<u>N</u>
14. Epidote	<u>N</u>	<u>Epidote</u>	<u>Sorosilicate</u>	<u>Y</u>
15. Aegirine	<u>Y</u>	<u>Na CPX</u>	<u>Inosilicate</u>	<u>N</u>
16. Chlorite	<u>N</u>	<u>Chlorite</u>	<u>Phyllosilicate</u>	<u>Y</u>
17. Albite	<u>Y</u>	<u>NaFeldspar</u>	<u>Tectosilicate</u>	<u>N</u>
18. Sanidine	<u>Y</u>	<u>K-spar</u>	<u>Tectosilicate</u>	<u>N</u>
19. Stilbite	<u>N (Y)</u>	<u>Zeolite</u>	<u>Tectosilicate</u>	<u>Y</u>
20. Tremolite	<u>N</u>	<u>Clinoamphibole</u>	<u>Inosilicate</u>	<u>Y</u>

Note: (Y) means the mineral contains an alkali element, but is not typically associated with alkali dominated rocks.