

# T-O-T LAYERS

Table 22.8. Smectite group and vermiculite

|          |                      |   |  |
|----------|----------------------|---|--|
| Smectite | <i>Dioctahedral</i>  | beidellite  | $(\text{Na}, \text{Ca}_{0.5})_{0.3} \text{Al}_2 (\text{Si}, \text{Al})_4 \text{O}_{10} (\text{OH})_2 \cdot n(\text{H}_2\text{O})$                  |
|          |                      | montmorillonite   | $(\text{Na}, \text{Ca})_{0.3} (\text{Al}, \text{Mg})_2 \text{Si}_4 \text{O}_{10} (\text{OH})_2 \cdot n(\text{H}_2\text{O})$                        |
|          |                      | nontronite  | $\text{Na}_{0.3} \text{Fe}_2 (\text{Si}, \text{Al})_4 \text{O}_{10} (\text{OH})_2 \cdot n(\text{H}_2\text{O})$                                     |
|          |                      | volkonskoite  | $\text{Ca}_{0.3} (\text{Cr}^{3+}, \text{Mg}, \text{Fe}^{3+})_2 (\text{Si}, \text{Al})_4 \text{O}_{10} (\text{OH})_2 \cdot 4(\text{H}_2\text{O})$   |
|          |                      | swinefordite  | $(\text{Ca}, \text{Na})_{0.3} (\text{Li}, \text{Mg})_2 (\text{Si}, \text{Al})_4 \text{O}_{10} (\text{OH}, \text{F})_2 \cdot 2(\text{H}_2\text{O})$ |
|          | <i>Trioctahedral</i> | saponite  | $(\text{Ca}_{0.5}, \text{Na})_{0.3} (\text{Mg}, \text{Fe}^{2+})_3 (\text{Si}, \text{Al})_4 \text{O}_{10} (\text{OH})_2 \cdot 4\text{H}_2\text{O}$  |
|          |                      | sauconite   | $\text{Na}_{0.3} \text{Zn}_3 (\text{Si}, \text{Al})_4 \text{O}_{10} (\text{OH})_2 \cdot 4\text{H}_2\text{O}$                                       |
|          |                      | hectorite   | $\text{Na}_{0.3} (\text{Mg}, \text{Li})_3 \text{Si}_4 \text{O}_{10} (\text{F}, \text{OH})_2$   |
|          |                      | stevensite  | $(\text{Ca}_{0.5})_{0.3} \text{Mg}_3 \text{Si}_4 \text{O}_{10} (\text{OH})_2$  |
|          |                      | yakhontovite  | $(\text{Ca}, \text{Na})_{0.5} (\text{Cu}^{2+}, \text{Fe}^{2+}, \text{Mg})_2 \text{Si}_4 \text{O}_{10} (\text{OH})_2 \cdot 3\text{H}_2\text{O}$     |
|          |                      | zincsilite  | $\text{Zn}_3 \text{Si}_4 \text{O}_{10} (\text{OH})_2 \cdot 4(\text{H}_2\text{O})$  |
|          |                      | IMA2002-025   | $\text{Ca}_{0.3} (\text{Fe}, \text{Mg}, \text{Fe})_3 (\text{Si}, \text{Al})_4 \text{O}_{10} (\text{OH})_2 \cdot 4\text{H}_2\text{O}$               |
|          | vermiculite          | $(\text{Mg}, \text{Fe}^{2+}, \text{Al})_3 (\text{Al}, \text{Si})_4 \text{O}_{10} (\text{OH})_2 \cdot 4(\text{H}_2\text{O})$ |  |