The structural behavior of wollastonite up to 5.9 GPa was studied by high-pressure single crystal X-ray method in diamond-anvil cell at room temperature. The bulk modulus calculated from the Birch-Murnaghan equation of state is $104(2)$ GPa ($K_0' = 4$ fix). The linear axial compressibilities are $B_a = 3.58 \times 10^{-3}$ GPa$^{-1}$, $B_b = 2.13 \times 10^{-3}$ GPa$^{-1}$, and $B_c = 2.87 \times 10^{-3}$ GPa$^{-1}$. That is, these results suggest that the linear compressibility of wollastonite along SiO$_4$ chain is similar to that of clinopyroxene.