

**EENS 2110**  
**FORMULAE OF COMMON MINERALS**

ORTHOSILICATES (NESOSILICATES)

Forsterite	$Mg_2SiO_4$
Fayalite	$Fe_2SiO_4$
Zircon	$ZrSiO_4$
Sphene	$CaTiSiO_4$
Pyrope	$Mg_3Al_2Si_3O_{12}$
Almandine	$Fe_3Al_2Si_3O_{12}$
Grossularite	$Ca_3Al_2Si_3O_{12}$
Sillimanite	$Al_2SiO_5$
Kyanite	$Al_2SiO_5$
Andalusite	$Al_2SiO_5$
Staurolite	$(Fe,Mg)_2Al_9Si_4O_{22}(OH)_2$
Topaz	$Al_2SiO_4(OH)_2$

SOROSILICATES

Lawsonite	$CaAl_2Si_2O_7(OH)_2 \cdot H_2O$
Epidote	$Ca_2Fe^{+3}Al_2Si_3O_{12}(OH)$
Clinozoisite	$Ca_2Al_3Si_3O_{12}(OH)$

CYCLOSILICATES

Beryl	$Be_3Al_2Si_6O_{18}$
Cordierite	$Al_4(Mg,Fe)_2Si_5O_{18}$

CHAIN SILICATES (INOSILICATES)

Enstatite	$MgSiO_3$
Ferrosilite	$FeSiO_3$
Hypersthene	$(Mg,Fe)SiO_3$
Diopside	$CaMgSi_2O_6$
Hedenbergite	$CaFeSi_2O_6$
Acmite	$NaFe^{+3}Si_2O_6$
Jadeite	$NaAlSi_2O_6$
Wollastonite	$CaSiO_3$
Tremolite	$Ca_2Mg_5Si_8O_{22}(OH)_2$
Actinolite	$Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$
Hornblende	$(Na,K)_{0-1}Ca_2(Mg,Fe,Al)_5Si_{6-7}Al_{2-1}O_{22}(OH,F)_2$

SHEET SILICATES (PHYLLOSILICATES)

Muscovite	$KAl_3Si_3O_{10}(OH)_2$
Biotite	$K(Mg,Fe)_3AlSi_3O_{10}(OH)_2$
Talc	$Mg_3Si_4O_{10}(OH)_2$
Chlorite	$(Mg,Fe,Al)_6(Si,Al)_4O_{10}(OH)_8$
Serpentine	$Mg_3Si_2O_5(OH)_4$
Kaolinite	$Al_2Si_2O_5(OH)_4$

FRAMEWORK SILICATES  
(TECTOSILICATES)

Anorthite	$CaAl_2Si_2O_8$
Albite	$NaAlSi_3O_8$
Sanidine	$KAlSi_3O_8$
Orthoclase	$KAlSi_3O_8$
Quartz	$SiO_2$
Cristobalite	$SiO_2$
Tridymite	$SiO_2$
Nepheline	$NaAlSiO_4$
Kalsilite	$KAlSiO_4$
Leucite	$KAlSi_2O_6$

OXIDES

Periclase	$MgO$
Corundum	$Al_2O_3$
Hematite	$Fe_2O_3$
Magnetite	$Fe_3O_4$
Ilmenite	$FeTiO_3$
Rutile	$TiO_2$
Spinel	$MgAl_2O_4$

HYDROXIDES

Brucite	$Mg(OH)_2$
Gibbsite	$Al(OH)_3$
Goethite	$FeOOH$

# Mineral Formulae

## SULFIDES

Pyrite	$\text{FeS}_2$
Chalcopyrite	$\text{CuFeS}_2$
Sphalerite	$\text{ZnS}$
Galena	$\text{PbS}$
Cinnabar	$\text{HgS}$
Covelite	$\text{CuS}$
Bornite	$\text{Cu}_5\text{FeS}_4$
Molybdenite	$\text{MoS}_2$

## SULFATES

Gypsum	$\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
Anhydrite	$\text{CaSO}_4$
Barite	$\text{BaSO}_4$

## CARBONATES

Calcite	$\text{CaCO}_3$
Siderite	$\text{FeCO}_3$
Magnesite	$\text{MgCO}_3$
Dolomite	$\text{CaMg}(\text{CO}_3)_2$

## PHOSPHATES

Apatite	$\text{Ca}_5(\text{PO}_4)_3(\text{OH},\text{F},\text{CL})$
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## HALIDES

Fluorite	$\text{CaF}_2$
Halite	$\text{NaCl}$
Sylvite	$\text{KCl}$

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