

Polar Stratospheric Clouds

Type I PSC: Nitric acid trihydrate ($\text{HNO}_3 \cdot 3\text{H}_2\text{O}$)
Ternary solution (H_2O , H_2SO_4 , HNO_3)
Formation Temp: 195 K
Particle diameter: $1\ \mu\text{m}$
Altitudes: 1024 km
Settling rates: 1 km/30 days

Type II PSC: Water Ice
Formation Temp: 188 K
Particle diameter: $> 10\ \mu\text{m}$
Altitudes: 1024 km
Settling rates: $> 1.5\ \text{km/day}$

Type II PSC cloud



Heterogeneous reactions take place on PSCs, releasing chlorine from HCl and ClONO_2 into reactive forms (ClO) that can rapidly destroy ozone.