

Question #62074, Chemistry / General Chemistry

Question:

Formation of ammonium chloride

Answer:

Ammonium chloride is an inorganic compound with the formula NH_4Cl .

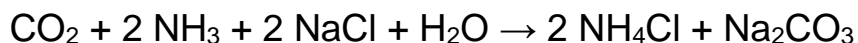
Ammonium chloride is prepared commercially by combining ammonia (NH_3) with either hydrogen chloride (gas) or hydrochloric (water solution):



Industrial method:



It is a product of the Solvay process used to produce sodium carbonate:



In addition to being the principal method for the manufacture of ammonium chloride, that method is used to minimize ammonia release in some industrial operations.

Ammonium chloride occurs naturally in volcanic regions, forming on volcanic rocks near fume-releasing vents (fumaroles). The crystals deposit directly from the gaseous state and tend to be short-lived, as they dissolve easily in water.