



## IS 2214: 1977 Specification for silver nitrate, pure and analytical reagent

**Silver nitrate** is a chemical compound appearing as **colorless, crystalline solids, free from dirt, foreign substances, and visible impurities**. This compound, with the formula  $\text{AgNO}_3$ , has diverse applications across various fields due to its unique chemical properties. One of its primary **uses is in photography**, particularly in **making photographic films**. Silver nitrate, when exposed to halides (such as chlorine, bromine, or iodine), forms silver halides, which are light-sensitive compounds essential in film photography. This light sensitivity makes silver nitrate a critical component in photographic film production, as it allows images to be captured and developed through chemical reactions with light.

In addition to its photographic applications, silver nitrate has **significant medicinal uses**. It **serves as an anti-infective, antiseptic, antibacterial, and cauterizing agent**. Medically, silver nitrate solutions are used to treat wounds and burns due to their ability to **prevent infections by inhibiting bacterial growth**. Beyond healthcare, silver nitrate is used in **synthesizing silver-based explosives**, where its reactivity with other chemicals can produce various explosive compounds.

The Indian Standard IS 2214, titled *Specification for Silver Nitrate, Technical and Analytical Reagent*, was first published in 1962 and revised in 1977. This standard **specifies requirements and testing methods for silver nitrate in technical and analytical reagent applications**. However, it does not cover silver nitrate for photographic film production, focusing instead on its use in electroplating, mirror silvering, and chemical analyses.

The standard categorizes silver nitrate into two grades:

1. **Pure Grade:** This grade is suitable for **electroplating, mirror silvering**, and other chemical processes **excluding photographic applications**. In electroplating, silver nitrate is used to deposit a layer of silver onto surfaces, creating a shiny, corrosion-resistant finish. Similarly, in mirror silvering, it is applied to glass surfaces to produce reflective mirrors.
2. **Analytical Reagent Grade:** This **high-purity grade is suitable for chemical analysis**. Analytical-grade silver nitrate is used in laboratory settings for qualitative and quantitative chemical tests, where it helps detect the presence of halides, anions, and other substances.

**IS 2214 ensures** that silver nitrate **used in industrial and laboratory applications** meets **purity and quality standards**, guaranteeing its effectiveness and safety for specified purposes.