

Many minerals found in nature contain silver as a component, (e.g. Acanthite), however most silver compounds in the laboratory are synthetically produced.

Alfa Aesar, now part of Thermo Fisher Scientific, produces an extensive range of specialized silver compounds, with over 70 products available and the capability to produce large batch sizes.

- Longstanding production experience
- High purity guaranteed
- Consistent manufacturing capabilities

- Custom sizes from 5g to 200kg
- Packaged in lightproof containers
- Bulk packing sizes are customized

The extensive range is used in a multitude of applications, ranging from medical, pharmaceutical, chemical, solar energy and many more.

| Stock<br>No. | Description                                | Size                      |
|--------------|--|---------------------------|
| 11660        | Silver acetate, anhydrous, 99%             | 25g, 100g, Bulk           |
| 11420        | Silver carbonate, 99.5% (metals basis)     | 25g, 100g, Bulk           |
| 11421        | Silver chloride, 99.9% (metals basis)      | 25g, 100g, 500g, Bulk     |
| 11419        | Silver iodide, 99.9% (metals basis)        | 25g, 100g, Bulk           |
| 11414        | Silver nitrate, ACS, 99.9+% (metals basis) | 5g, 25g, 100g, 500g, Bulk |
| 11407        | Silver(I) oxide, 99+% (metals basis)       | 25g, 100g, 500g, Bulk     |
| 11415        | Silver phosphate, 99%                      | 5g, 25g, Bulk             |
| 11417        | Silver sulfate, ACS, 98%                   | 25g, 100g, Bulk           |
| 11416        | Silver sulfide, 99%                        | 5g, 25g, 100g, Bulk       |
| 11539        | Silver tetrafluoroborate, 99%              | 10g, 50g, Bulk            |
| 88722        | Silver trifluoromethanesulfonate, 98%      | 2g, 10g, 50g, Bulk        |

Full product listing is available online.



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# Specialty silver salts

# Principle applications of silver compounds

### Chemical

Many silver salts are the chemical precursors for other silver compounds or metallic silver. Silver carbonate has been employed in the Koenigs-Knorr reaction, a substitution reaction of a glycosyl halide with an alcohol to give a glycoside. Whilst the decarboxylation of silver carboxylates leads to corresponding carboxylic acid (Hunsdiecker reaction).

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### **Pharmaceutical**

The medicinal properties of silver salts have been used in a range of pharmaceutical compositions. Among its biological uses in histology, silver nitrate will demonstrate the presence of proteins and nucleic acids.

### Medical and medical devices

Silver and silver salts have been used extensively throughout history for a variety of medical purposes. Recently silver salts have been incorporated into sterile dressings.

## Fuel cells and solar energy materials

Silver salts are in use in a variety of electrochemical applications, such as fuel cells, in which they exhibit ionic conductivity.

### **Electrodes for potentiometric measurement**

For potentiometric measurement, electrochemists will use a silver/silver chloride electrode as a matter of choice.

# Photographic film industry

Silver compounds have been historically used in photography. The silver products used are light sensitive and undergo fast photoinduced chemical reduction to metallic silver particles.

# Glass industry

Cement and coloring agents; Stained glass can be tinted yellow with silver nitrate. Silver chloride is widely employed as a transparent cement in glass-to-metal seals, for example as a sealant in cathode ray tubes.



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