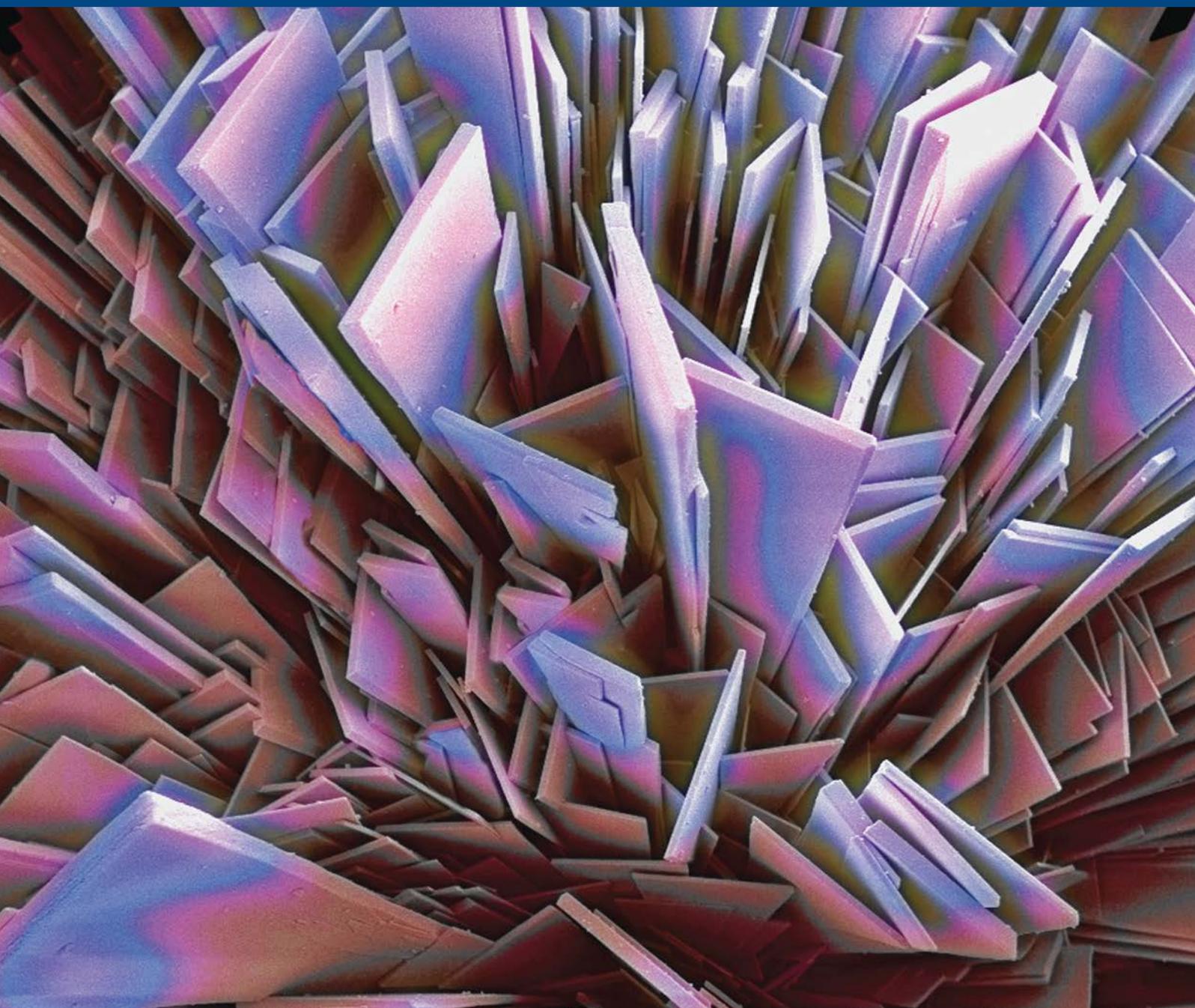


**Alfa Aesar**



High purity inorganics

**VWR** ®  
We Enable Science

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## Introduction

The Alfa Aesar™ portfolio contains a wide variety of high purity inorganic compounds. Our high purity inorganics products include distinct materials manufactured to exacting standards for research, development and production applications. Custom production and packaging services are part of our regular offering. Our four brands, Puratronic, Ultra Dry, REacton and Premion are recognized for their purity and quality and are backed up by technical and sales teams dedicated to providing the best service.



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# Puratronic™ high purity inorganics

The Puratronic line of base metal salts, solutions and pure elements is the leading choice of pharmaceutical and high technology companies needing the basic building blocks for many research and development processes. Each Puratronic compound has a minimum of 99.99% (metals basis) and each is backed by a lot-specific certificate of analysis. Our Puratronic production labs are in continuous operation and can produce lots from a few grams up to hundreds of kilograms.

## Application for inorganics

High purity products for infared fiber optics.

Materials for fiber optics include high-purity fluorides and sulfides. Typical purities are 99.99% to 99.995%.

## Products include:

- Ammonium nitrate
- Antimony(III) oxide
- Boric acid
- Calcium carbonate
- Cesium iodide
- Gallium(III) oxide
- Germanium(IV) oxide
- Lead(II) fluoride
- Lithium niobium oxide
- Lithium tetraborate
- Tantalum(V) chloride
- Thallium(III) iodide



Stock No.	Description
AA10638	Ammonium nitrate, Puratronic, 99.999% (metals basis)
AA10641	Antimony(III) oxide, Puratronic, 99.999% (metals basis)
AA10659	Boric acid, Puratronic, 99.9995% (metals basis)
AA10663	Cadmium nitrate tetrahydrate, Puratronic, 99.999% (metals basis)
AA43153	Copper(I) iodide, Puratronic, 99.998% (metals basis)
AA11150	Gallium(III) nitrate hydrate, Puratronic, 99.999% (metals basis)
AA11152	Gallium(III) sulfate hydrate, Puratronic, 99.999% (metals basis)
AA10715	Iron(III) nitrate hydrate, Puratronic, 99.999% (metals basis)
AA10716	Iron(III) oxide, Puratronic, 99.998% (metals basis)
AA10720	Lead(II) bromide, Puratronic, 99.999% (metals basis)
AA10734	Lithium carbonate, Puratronic, 99.998% (metals basis excluding Ca), Ca <20ppm
AA10741	Lithium niobium oxide, Puratronic, 99.998% (metals basis excluding Ta), Ta <50ppm
AA10805	Manganese(IV) oxide, Puratronic, 99.997% (metals basis)
AA12930	Molybdenum(VI) oxide, Puratronic, 99.9995% (metals basis excluding W)
AA10838	Potassium carbonate, Puratronic, 99.997% (metals basis)
AA10839	Potassium chloride, Puratronic, 99.997% (metals basis)
AA10862	Sodium chloride, Puratronic, 99.999% (metals basis)
AA10878	Strontium fluoride, Puratronic, 99.99% (metals basis)
AA43731	Tantalum(V) chloride, anhydrous, Puratronic, 99.995% (metals basis)
AA10881	Tantalum(V) oxide, Puratronic, 99.993% (metals basis excluding Nb), Nb 50ppm max

Full product listing and pack sizes available online [vwr.com/alfa](http://vwr.com/alfa)

# Ultra Dry™ anhydrous materials

Your first choice for air and moisture sensitive applications is the Ultra Dry line of materials. Ultra Dry compounds are manufactured under exacting conditions to ensure that oxygen and water impurities are in the parts per million range. Only high purity starting materials are used in manufacturing, which produces results in overall purities of 99.9% to 99.999%. All Ultra Dry salts are ampouled under argon and most are available in -10 mesh beads and in powder form.

## Application for inorganics

Halides for halogen lighting high purity anhydrous halides are employed in numerous industrial sectors. One of the most exciting fields is the growth of Rare Earth iodides within the luminescence industry. Ultra Dry inorganics increase lamp performance by giving superior efficiency and improved color.



Stock No.	Description
AA44313	Aluminum chloride, ultra dry, 99.999% (metals basis)
AA43674	Calcium iodide, ultra dry, 99.99% (metals basis)
AA13619	Iron(II) iodide, ultra dry, 99.99% (metals basis)
AA44314	Lead(II) iodide, ultra dry, 99.999% (metals basis)
AA13600	Lithium iodide, ultra dry, 99.999% (metals basis)
AA42844	Manganese(II) chloride, ultra dry, 99.99% (metals basis)
AA13604	Sodium iodide, ultra dry, 99.999% (metals basis)
AA14476	Tin(II) iodide, ultra dry, 99.999% (metals basis)
AA13617	Tin(IV) iodide, ultra dry, 99.998% (metals basis)



Full product listing and pack sizes available online [vwr.com/alfa](http://vwr.com/alfa)

# REacton™ rare earth metals and compounds

Recognized as the benchmark for high purity rare earths, the REacton brand encompasses the complete lanthanide series (excluding promethium) along with scandium and yttrium. REacton rare earths feature extremely low impurity levels and a lot-specific certificate of analysis is issued with each shipment.

## Application for inorganics

Rare earth fluorides are low oxygen dopants for fluoride glasses

## Products include:

- Cerium ammonium nitrate
- Europium(III) chloride
- Gadolinium(III) nitrate
- Holmium(III) oxide
- Lanthanum(III) chloride
- Lanthanum(III) oxide
- Scandium(III) oxide
- Terbium(III,IV) oxide
- Ytterbium(III) oxide
- Yttrium(III) acetate



Stock No.	Description
AA11329	Cerium(III) nitrate hexahydrate, REacton, 99.5% (REO)
AA11328	Cerium(IV) oxide, REacton, 99.9% (REO)
AA11318	Dysprosium(III) oxide, REacton, 99.99% (REO)
AA11310	Erbium(III) oxide, REacton, 99.9% (REO)
AA11309	Erbium(III) oxide, REacton, 99.99% (REO)
AA11290	Gadolinium(III) oxide, REacton, 99.99% (REO)
AA10910	Holmium(III) oxide, REacton, 99.995% (REO)
AA11267	Lanthanum(III) nitrate hexahydrate, REacton, 99.99% (REO)
AA11207	Terbium(III,IV) oxide, REacton, 99.9% (REO)
AA11191	Ytterbium(III) oxide, REacton, 99.9% (REO)



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# Premion™ compounds

Premion is Alfa Aesar's line of high purity precious metal compounds and pure elements. Premion compounds include the following metals: Platinum (Pt), Palladium (Pd), Rhodium (Rh), Iridium (Ir), Ruthenium (Ru), Osmium (Os), Silver (Ag), and Gold (Au). The minimum purity for Premion compounds is 99.95% (metals basis).

## Application for inorganics

Photography, Electrodes, Electrode coatings, Semiconductor industry, Catalysis and Plating solutions

## Products include:

- Ammonium hexachloroiridate(IV)
- Iridium powder
- Palladium(II) sulfate dehydrate
- Platinum powder
- Ruthenium(III) nitrosylsulfate
- Silver nitrate
- Silver sulfide



Stock No.	Description
AA43475	Ammonium bis(oxalato)palladium(II) dihydrate, Premion, 99.99% (metals basis)
AA10713	Ammonium hexachloroiridate(III) hydrate, Premion, 99.99% (metals basis)
AA41007	Chloro(triphenylphosphine)gold(I), Premion, 99.99% (metals basis), Au 39.3% min
AA36259	Dihydrogen hexachloroplatinate(IV) hexahydrate, ACS, Premion, 99.95% (metals basis), Pt 37.5% min
AA42803	Hydrogen tetrachloroaurate(III) hydrate, Premion, 99.999% (metals basis), Au 49% min
AA40429	Lithium tetrachloroaurate(III) hydrate, Premion, 99.99% (metals basis)
AA43697	Palladium(II) bromide, Premion, 99.998% (metals basis), Pd 39.5% min
AAA44503	Platinum(IV) chloride, Premion, 99.99+% (metals basis), Pt 57% min
AAA43947	Potassium hexabromopalladate(IV), Premion, 99.999% (metals basis), Pd 15.5% min
AA43435	Ruthenium(III) nitrosylacetate, Premion, 99.99% (metals basis)

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# General inorganics and reagents

Alfa Aesar also carries a wide variety of general inorganics and reagents for those applications which do not require extremely high purity compounds. For our customers who need to specifically meet the American Chemical Society (ACS) certification guidelines for reagents, we are pleased to offer a complete line of ACS certified materials. Each chemical is rigorously tested to meet the specifications set forth in the Eleventh Edition of Reagent Chemicals. The Alfa Aesar portfolio also offers a wide range of nanoparticle products ranging from pure elements to oxide powders and dispersions. Most materials are in stock in quantities from a few grams to hundreds of kilograms.



Stock No.	Description
AA88488	Aluminum chloride, anhydrous, 99.985% (metals basis)
AA12887	Cesium carbonate, 99% (metals basis)
AA12357	Iron(III) chloride, anhydrous, 98%
AA12724	Lead(II) iodide, 99.9985% (metals basis)
AA12839	Lithium sulfide, 99.9% (metals basis)
AA12315	Magnesium chloride, anhydrous, 99%
AA11594	Potassium dihydrogen phosphate, ACS, 99.0% min
AA11601	Potassium iodide, ACS, 99.0% min
AA44389	Silica gel desiccant, indicating, -6+16 mesh granules
AA14314	Sodium azide, 99%
AA12314	Sodium chloride, ACS, 99.0% min
AA14706	Sodium hexametaphosphate, tech.
AA13431	Sodium hydride, 57-63% oil dispersion
AA13455	Sodium hydroxide (low chloride), ACS, 97.0% min
AA11623	Sodium perchlorate, anhydrous, ACS, 98.0-102.0%
AA54100	Sodium peroxydisulfate, 98%
AA65122	Sodium sulfide, anhydrous
AA45543	Sulfuric acid, 20% fuming, 18-24% free SO <sub>3</sub>
AAA41868	Thionyl chloride, 99+%
AA11090	Vanadium(IV) sulfate oxide hydrate, 99.9% (metals basis)

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