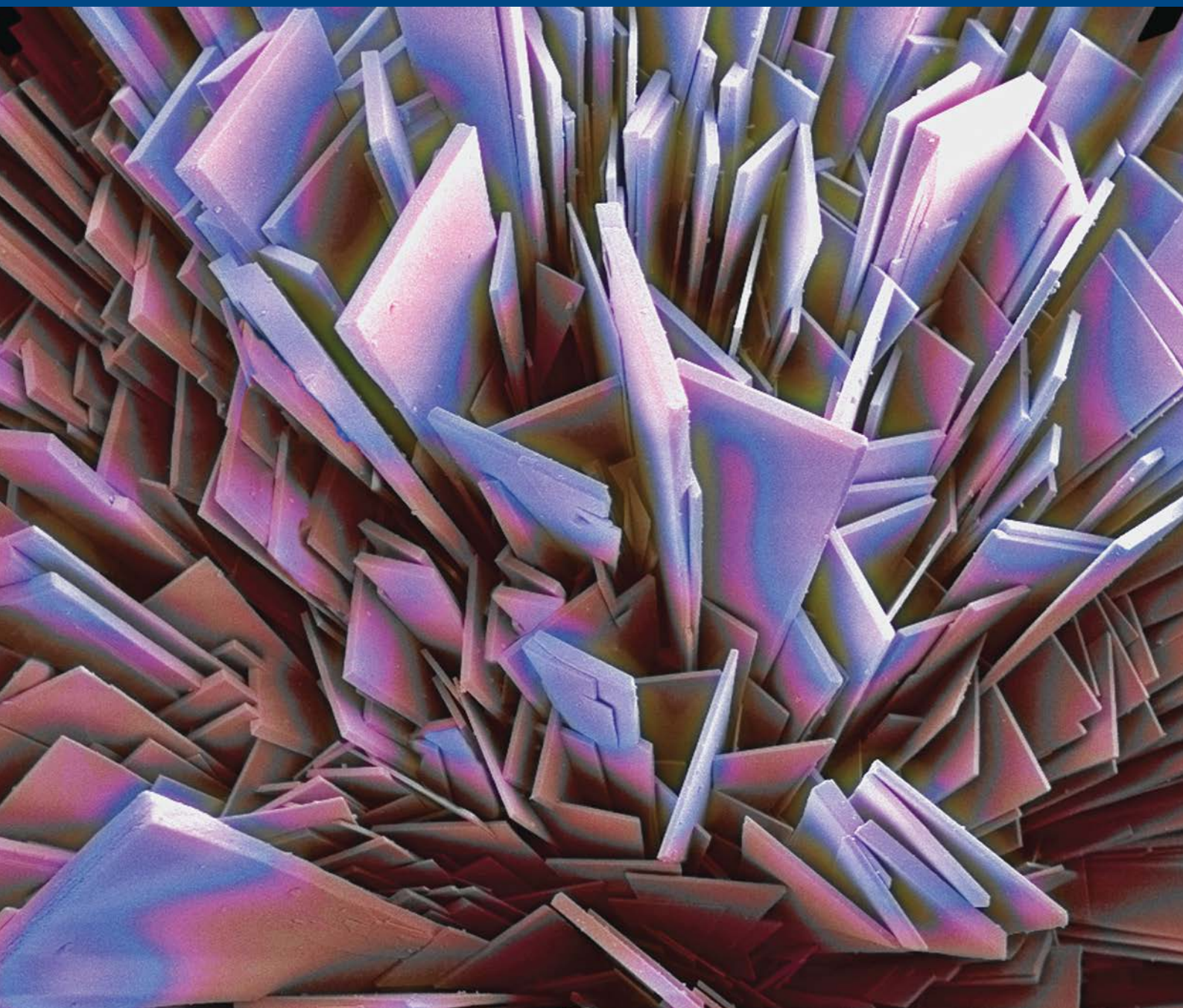


Alfa Aesar



High purity inorganics

ThermoFisher
SCIENTIFIC

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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.



Order our products online [alfa.com](https://www.alfa.com)

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
010638	Ammonium nitrate, Puratronic, 99.999% (metals basis)
010641	Antimony(III) oxide, Puratronic, 99.999% (metals basis)
010659	Boric acid, Puratronic, 99.9995% (metals basis)
010663	Cadmium nitrate tetrahydrate, Puratronic, 99.999% (metals basis)
043153	Copper(I) iodide, Puratronic, 99.998% (metals basis)
011150	Gallium(III) nitrate hydrate, Puratronic, 99.999% (metals basis)
011152	Gallium(III) sulfate hydrate, Puratronic, 99.999% (metals basis)
010715	Iron(III) nitrate hydrate, Puratronic, 99.999% (metals basis)
010716	Iron(III) oxide, Puratronic, 99.998% (metals basis)
010720	Lead(II) bromide, Puratronic, 99.999% (metals basis)
010734	Lithium carbonate, Puratronic, 99.998% (metals basis excluding Ca), Ca <20ppm
010741	Lithium niobium oxide, Puratronic, 99.998% (metals basis excluding Ta), Ta <50ppm
010805	Manganese(IV) oxide, Puratronic, 99.997% (metals basis)
012930	Molybdenum(VI) oxide, Puratronic, 99.9995% (metals basis excluding W)
010838	Potassium carbonate, Puratronic, 99.997% (metals basis)
010839	Potassium chloride, Puratronic, 99.997% (metals basis)
010862	Sodium chloride, Puratronic, 99.999% (metals basis)
010878	Strontium fluoride, Puratronic, 99.99% (metals basis)
043731	Tantalum(V) chloride, anhydrous, Puratronic, 99.995% (metals basis)
010881	Tantalum(V) oxide, Puratronic, 99.993% (metals basis excluding Nb), Nb 50ppm max

Full product listing and pack sizes available online alfa.com/puratronic-compounds

Ultra Dry™ anhydrous materials

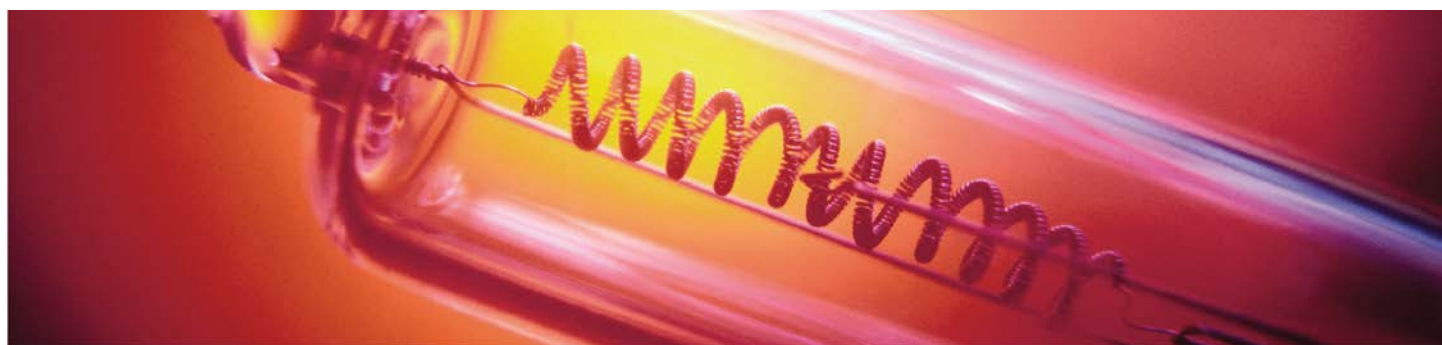
Your first choice for air and moisture sensitive applications is the Ultra Dry line of materials. Ultra Dry compounds are manufactured under exacting conditions to ensure that oxygen and water impurities are in the parts per million range. Only high purity starting materials are used in manufacturing, 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
044313	Aluminum chloride, ultra dry, 99.999% (metals basis)
043674	Calcium iodide, ultra dry, 99.99% (metals basis)
013619	Iron(II) iodide, ultra dry, 99.99% (metals basis)
044314	Lead(II) iodide, ultra dry, 99.999% (metals basis)
013600	Lithium iodide, ultra dry, 99.999% (metals basis)
042844	Manganese(II) chloride, ultra dry, 99.99% (metals basis)
013604	Sodium iodide, ultra dry, 99.999% (metals basis)
014476	Tin(II) iodide, ultra dry, 99.999% (metals basis)
013617	Tin(IV) iodide, ultra dry, 99.998% (metals basis)



Full product listing and pack sizes available online alfa.com/ultra-dry

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

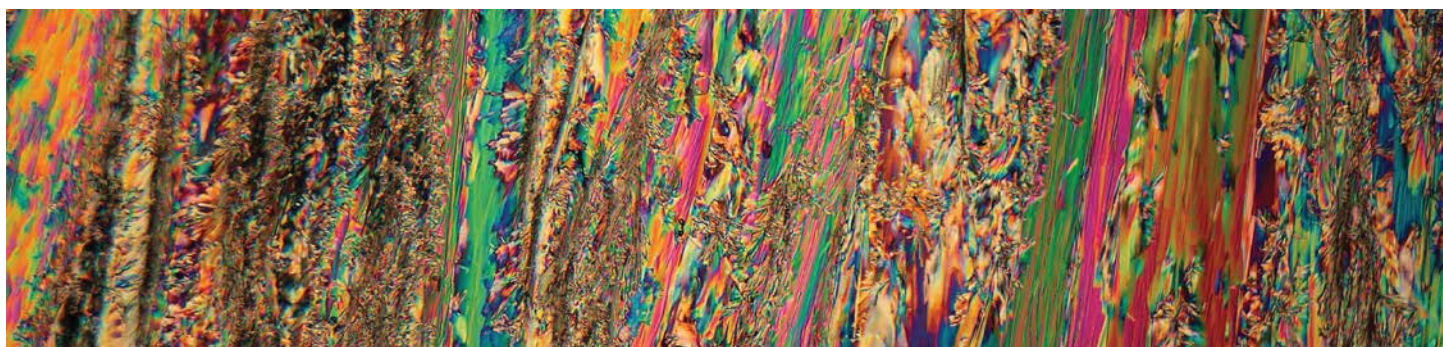
Rare earth fluorides are low oxygen dopants for fluoride glasses

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
011329	Cerium(III) nitrate hexahydrate, REacton, 99.5% (REO)
011328	Cerium(IV) oxide, REacton, 99.9% (REO)
011318	Dysprosium(III) oxide, REacton, 99.99% (REO)
011310	Erbium(III) oxide, REacton, 99.9% (REO)
011309	Erbium(III) oxide, REacton, 99.99% (REO)
011290	Gadolinium(III) oxide, REacton, 99.99% (REO)
010910	Holmium(III) oxide, REacton, 99.995% (REO)
011267	Lanthanum(III) nitrate hexahydrate, REacton, 99.99% (REO)
011207	Terbium(III,IV) oxide, REacton, 99.9% (REO)
011191	Ytterbium(III) oxide, REacton, 99.9% (REO)



Full product listing and pack sizes available online alfa.com/rare-earth-compounds

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
43475	Ammonium bis(oxalato)palladium(II) dihydrate, Premion, 99.99% (metals basis)
10713	Ammonium hexachloroiridate(III) hydrate, Premion, 99.99% (metals basis)
41007	Chloro(triphenylphosphine)gold(I), Premion, 99.99% (metals basis), Au 39.3% min
36259	Dihydrogen hexachloroplatinate(IV) hexahydrate, ACS, Premion, 99.95% (metals basis), Pt 37.5% min
42803	Hydrogen tetrachloroaurate(III) hydrate, Premion, 99.999% (metals basis), Au 49% min
40429	Lithium tetrachloroaurate(III) hydrate, Premion, 99.99% (metals basis)
43697	Palladium(II) bromide, Premion, 99.998% (metals basis), Pd 39.5% min
44503	Platinum(IV) chloride, Premion, 99.99+% (metals basis), Pt 57% min
43947	Potassium hexabromopalladate(IV), Premion, 99.999% (metals basis), Pd 15.5% min
43435	Ruthenium(III) nitrosylacetate, Premion, 99.99% (metals basis)

Full product listing and pack sizes available online [alfa.com/premion-compounds](https://www.alfa.com/premion-compounds)

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
88488	Aluminum chloride, anhydrous, 99.985% (metals basis)
12887	Cesium carbonate, 99% (metals basis)
12357	Iron(III) chloride, anhydrous, 98%
12724	Lead(II) iodide, 99.9985% (metals basis)
12839	Lithium sulfide, 99.9% (metals basis)
12315	Magnesium chloride, anhydrous, 99%
11594	Potassium dihydrogen phosphate, ACS, 99.0% min
11601	Potassium iodide, ACS, 99.0% min
44389	Silica gel desiccant, indicating, -6+16 mesh granules
14314	Sodium azide, 99%
12314	Sodium chloride, ACS, 99.0% min
14706	Sodium hexametaphosphate, tech.
13431	Sodium hydride, 57-63% oil dispersion
13455	Sodium hydroxide (low chloride), ACS, 97.0% min
11623	Sodium perchlorate, anhydrous, ACS, 98.0-102.0%
54100	Sodium peroxydisulfate, 98%
65122	Sodium sulfide, anhydrous
45543	Sulfuric acid, 20% fuming, 18-24% free SO ₃
41868	Thionyl chloride, 99+%
11090	Vanadium(IV) sulfate oxide hydrate, 99.9% (metals basis)

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