Alfa Aesar

High purity metals and materials

VWR®
We Enable Science

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Introduction

The Alfa Aesar™ portfolio includes a broad range of high purity metals and materials, virtually all of which are available from stock for immediate shipment. No matter what your application, we are able to supply pure metals, alloys and non-metallic elements in various purities and forms to meet most specifications. A wide range of resources for manufacturing and fabrication are available to meet most specialty requirements.

In addition to pure elements and alloys, you will find here a variety of forms of carbon, ceramics for high temperature applications, evaporation materials, products for brazing, optics, crystals and even a selection of fuel cell grade catalysts.

Count on Alfa Aesar for:

- Highest purity and quality products
- Outstanding delivery and service
- Competitive pricing for large and small quantities

Find the full range of high purity metals and materials online at **www.vwr.com/alfa-mm**

Pure elements

Our broad range of pure elements, from Aluminum to Zirconium, are designed to meet a wide variety of high technology applications. Different purities and forms are provided to correspond to the demands of many different uses and applications. Representative physical properties and additional facts pertaining to each element are available. Our range of pure elements contains over 1400 products.

A selection of our pure elements can be found in the table below.

VWR Cat. No.	Description
AA00905	Bromine liquid, 99.8%
AA10146	Cesium, 99.98% (metals basis)
AA40317	Gold shot, semi-spherical, 6.35mm (0.25in) & down, Premion®, 99.999% (metals basis)
AA10195	Gold wire, 0.2mm (0.008in) diam., 99.9% (metals basis)
AA10769	Lithium foil, 0.75mm (0.03in) thick x 19mm (0.75in) wide, 99.9% (metals basis)
AA10283	Platinum gauze, 52 mesh woven from 0.1mm (0.004in) diam., wire, 99.9% (metals basis)
AA13374	Platinum slug, 6.35mm (0.25in) diam. x 12.7mm (0.50in) length, Premion®, 99.99+% (metals basis)
AA11435	Silver wire, 2.0mm (0.08in) diam., annealed, 99.9% (metals basis)
AA13783	Vanadium foil, 0.127mm (0.005in) thick, 99.8% (metals basis)
AA10441	Zirconium sponge, 0.8-25.4mm (0.03-1.0in), 99.5%, Zr & Hf

Full product listing and pack sizes available online **www.vwr.com/alfa**

Alloys

We offer a wide variety of alloys in several compositions and forms. Our range of alloys contains over 250 products. Aluminum alloys for use in many industries such as equipment, machinery, vehicles and various specialized applications. Copper alloys are the less expensive option than gold and platinum and provide incomparable heat and thermal performance. Nickel and stainless steel alloys are available and are used widely within the chemical industry.

A selection of our alloys can be found in the table below.

VWR Cat. No.	Description
AA88322	Aluminum silicon powder, -325 mesh, 99% (metals basis)
AA45526	Devarda's alloy, granular
AA45547	Ferrosilicon 75
AA12478	Gallium indium eutectic, 99.99% (metals basis)
AA18161	Gallium tin alloy, 99.99% (metals basis)
AA40328	Gold wire, 14kt, red, 1.63mm (0.064in) diam., Au 58.3% min.
AA36683	Iron nickel powder, -325 mesh, 99.5+% (metals basis)
AA44954	Nitinol foil, 0.38mm (0.015in) thick, superelastic, flat annealed, pickled surface
AA41582	Stainless steel foil, 0.05mm (0.002in) thick, type 304
AA47290	Stainless steel powder, -325 mesh, type 430-L

Full product listing and pack sizes available online **www.vwr.com/alfa**

Carbon, graphite and ceramics

Our portfolio includes a wide selection of carbon products in a variety of forms, including powder, diamond, fullerene, glassy carbon and graphite. This product range includes over 350 products.

A selection of our carbon, graphite and ceramic products can be found in the table below.

VWR Cat. No.	Description
AA31705	Ceramic Al-23 tube, both ends open (thin wall), outer diam. 5mm, inner diam. 4mm
AA39724	Carbon black, acetylene, 50% compressed, 99.9+%
AA43199	Carbon felt, 3.18mm (0.125in) thick, 99.0%
AA43118	Carbon, activated, -4+8 mesh
AA13401	Diamond powder, synthetic, <1 micron, 99.9% (metals basis)
AA46311	Fullerene powder, 99% C_{60}
AA40971	Fullerene soot, as produced
AA44794	Glassy carbon foam, nominally 500 pores per inch, length 6in, width 6in, thickness 1in
AA38022	Glassy carbon plate, 2mm (0.08in) thick, type 2
AA37996	Glassy carbon rod, 1mm (0.04in) diam., type 2

Full product listing and pack sizes available online **www.vwr.com/alfa**

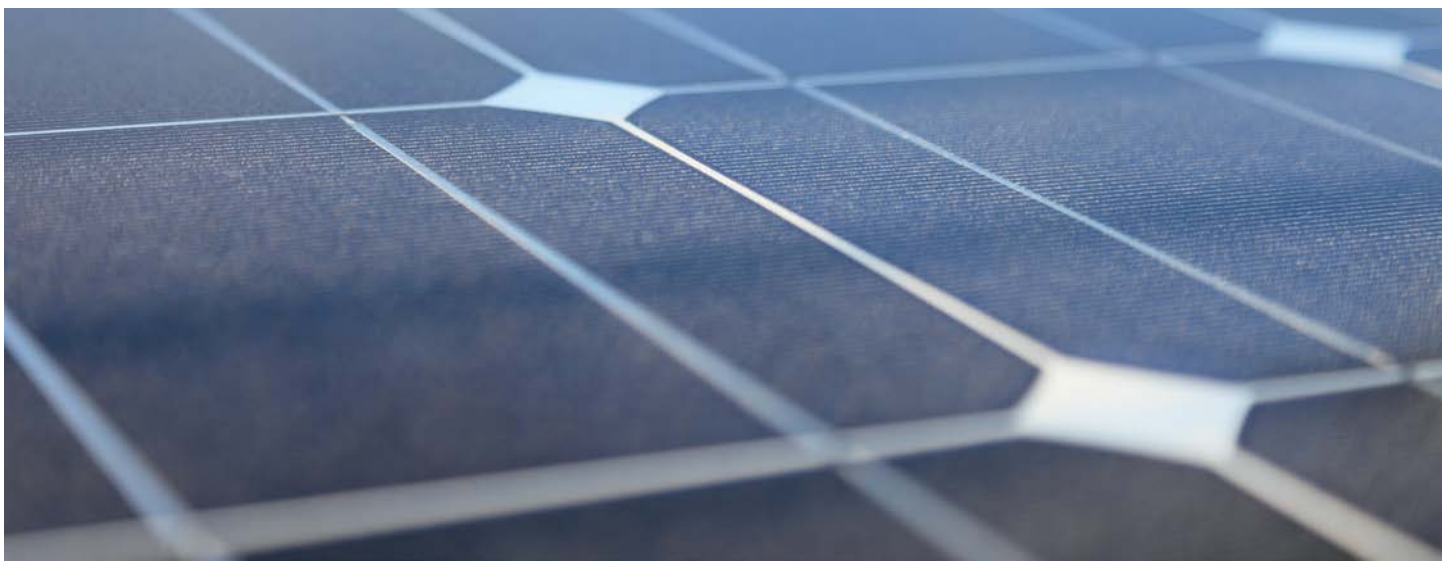
Fuel cell grade products

Our extensive product line is a great fit for all of your needs. We offer a full range of membrane electrode assemblies, Toray carbon papers, Nafion® membranes, anodes for hydrogen and reformate fuel cells, cathodes for hydrogen and reformate fuel cells, cathodes and anodes for direct methanol fuel cells and fuel cell catalysts.

A selection of our fuel cell grade products can be found in the table below.

VWR Cat. No.	Description
AA45468	Copper based methanol reforming catalyst, HiFUEL® R120
AA45374	Direct methanol fuel cell (DMFC) anode, 100cm²
AA42180	Nafion® N-117 membrane, 0.180mm thick, ≥0.90 meq/g exchange cap.
AA45036	Nafion® NRE-212 membrane, 0.05mm thick, ≥0.92 meq/g exchange cap.
AA45465	Nickel based steam reforming catalyst, HiFUEL® R110
AA35849	Platinum, nominally 20% on carbon black, HiSPEC® 3000
AA42204	Platinum, nominally 40% on carbon black, HiSPEC® 4000
AA45039	Platinum, nominally 40%, ruthenium nominally 20% on 50% compressed carbon black, HiSPEC® 10300
AAA44728	Platinum, nominally 60% on high surface area advanced carbon support, HiSPEC® 9100
AA45365	Toray carbon paper, PTFE treated, TGP-H-60, 19x19cm

Full product listing and pack sizes available online **www.vwr.com/alfa**



Evaporation materials

Our product line consists of a compiled broad representation of the more commonly used materials for evaporating and crystal growing applications. All purities are based on total metallic impurities unless otherwise specified.

All products designated as Puratronic® or REacton® grade are automatically supplied with a Certificate of Analysis (COA). This certificate details elements sought, detection limits and total metallic impurity levels in parts per million. Purities are based on Total Metallic Impurities (TMI). Tolerances for metal are normally +/- 10% of listed value unless specifically identified.

A selection of our evaporation materials can be found in the table below.

VWR Cat. No.	Description
AA40830	Carbon sputtering target, 76.2mm (3.0in) diam. x 3.18mm (0.125in) thick, 99.999% (metals basis)
AA39671	Cobalt slug, 6.35mm (0.25in) diam. x 6.35mm (0.25in) length, 99.95% (metals basis)
AA39675	Copper slug, 6.35mm (0.25in) diam. x 6.35mm (0.25in) length, 99.996% (metals basis)
AA13394	Gold slug, 3.175mm (0.125in) diam. x 6.35mm (0.25in) length, Premion®, 99.99% (metals basis)
AA13374	Platinum slug, 6.35mm (0.25in) diam. x 12.7mm (0.50in) length, Premion®, 99.99+% (metals basis)
AA40419	Platinum slug, 6.35mm (0.25in) diam. x 6.35mm (0.25in) length, 99.95% (metals basis)
AA42924	Silver slug, 3.175mm (0.125in) diam. x 3.175mm (0.125in) length, 99.99% (metals basis)
AA39670	Tantalum slug, 6.35mm (0.25in) diam. x 6.35mm (0.25in) length, 99.95% (metals basis)
AA41110	Titanium nitride sputtering target, 50.8mm (2.0in) diam. x 3.18mm (0.125in) thick, 99.5% (metals basis)
AA43043	Titanium sputtering target, 50.8mm (2.0in) diam. x 6.35mm (0.250in) thick, 99.995% (metals basis)

Full product listing and pack sizes available online **www.vwr.com/alfa**

Labware

Our Labware includes precious metal, non-precious metal, PTFE Labware, quartz, glassy carbon, and ceramic labware. From crucibles to plates, we offer labware in many different forms. We offer over 750 products in our labware and equipment portfolio.

If your need is for precious metal labware, then trust the precious metal experts the next time you need the tolerance of platinum or other precious metal labware. Alfa Aesar labware is competitively priced on a daily basis and standard items are in stock for immediate shipment.

Only a few metals are required to produce a wide array of durable labware. The basic noble metals group consists of platinum, rhodium, ruthenium, osmium, palladium, iridium, gold and silver. Ruthenium and osmium, however, are unworkable in their pure form and are only offered under special circumstances.

A selection of our labware products can be found in the table below.

VWR Cat. No.	Description
AA38021	Glassy carbon plate, 1mm (0.04in) thick, type 2
AA43242	USA standard sieve, 850 mesh
AA37996	Glassy carbon rod, 1mm (0.04in) diam., type 2
AA39010	Glassy carbon cylindrical crucible, 30ml vol., 36mm diam., 45mm height
AA42822	Glassy carbon rod, 3mm (0.1in) diam., type 1
AA39995	USA standard sieve, 400 mesh
AA35951	Straight wall zirconium crucible, 20ml cap., 33mm outside diam., 29mm depth
AA42825	Glassy carbon rod, 4mm (0.16in) diam., type 2
AA42299	Quartz disc, fused, 50.8mm (2.0in) diam. x 3.18mm (0.13in) thick
AA39990	USA standard sieve, 170 mesh

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