

Ultra Pure Inorganics for:

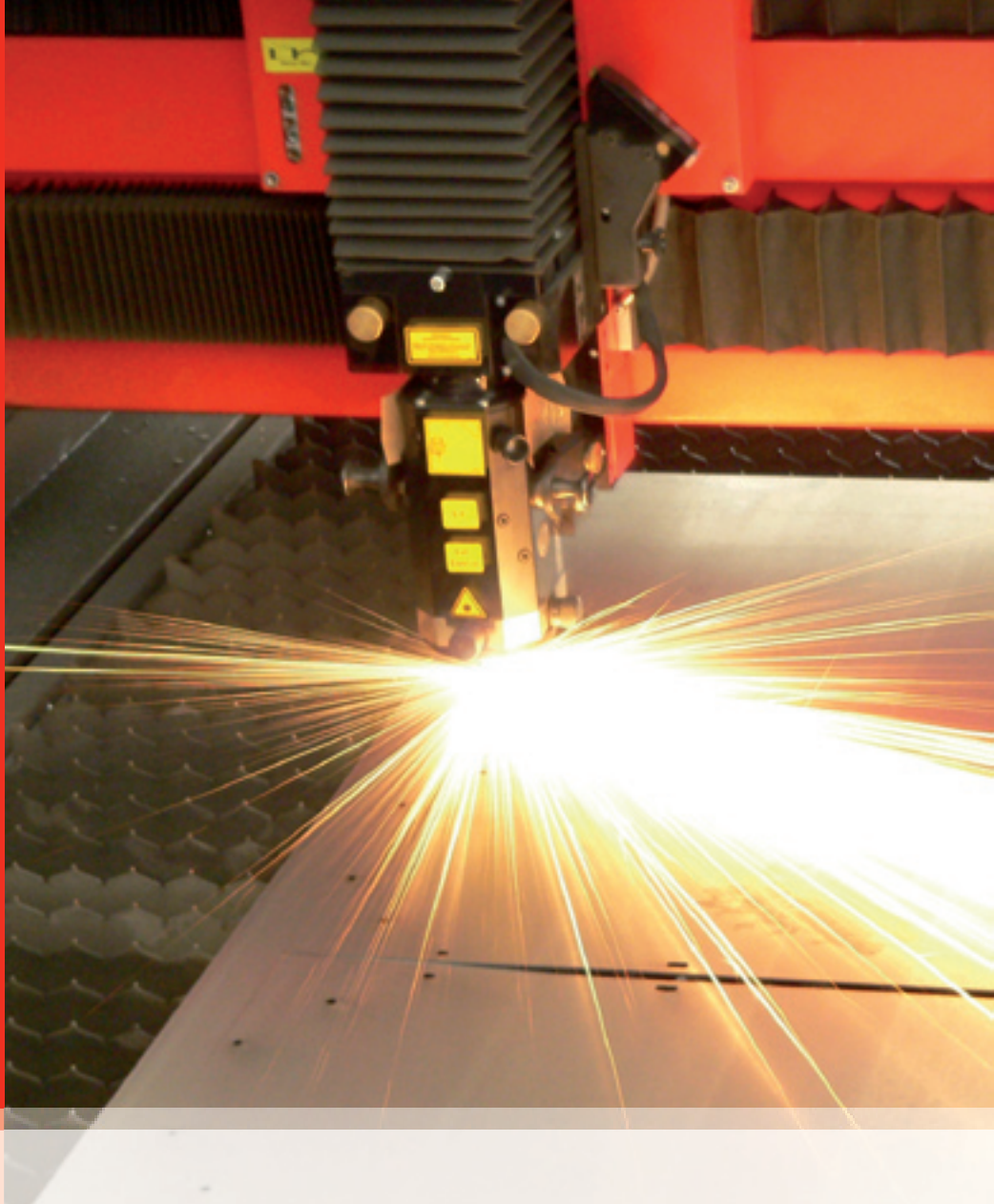
Catalysis

Crystal Growth Technology

Photovoltaic Materials

Optical Fibers

Lasers



Acros Organics Ultra Pure Inorganics Application Overview



Introduction

High purity inorganics with ultra low metal contaminants have many important applications in today's high technologies, ranging from optical fibers to solar panels. Acros Organics offer a line of ultra pure inorganics with trace metal content less than 100 ppm to as low as 1 ppm. In order to meet the increasing market demand, we have recently expanded our ultra purity inorganics offering by 50%. In this brochure, you will find the overview of the five most important applications of our ultra high purity inorganics.

- Catalysis
- Crystal Growth Technology
- Photovoltaic Materials
- Optical fibers
- Lasers

Catalysis

The use of high purity inorganics as catalysts, catalyst precursors or reagents in organic synthesis offers the chance to reduce or remove unwanted impurities from a synthetic sequence.

This in turn can reduce purification requirements and waste generated from a reaction. Catalysis reactions are ubiquitous in our modern world, from increasing the efficiency of petroleum refining, cleaning car exhaust emissions with catalytic converters, producing cleaner, safer and more effective drugs or making the plastic cups from which we drink. All of these processes depend on catalysts.

Desired Catalysis requirements include:

- High Activity – allows for minimal catalyst volume while generating short reaction times.
- High Selectivity – produces desired products at high yield and eliminates unwanted by-products.
- Long Life – resistant to poisoning of the active catalytic site/state.
- Recycle/Removal Capability – ability to easily remove catalyst from a reaction and/or reuse.

By tailoring your reaction by selecting the right catalyst for the desired reaction outcome, one can achieve these four criteria.

Typical Acros Organics products used in catalysis:

| Example products: | | |
|-------------------|------------------------------------------|----------|
| Product ID | Compound | % Purity |
| 19369 | Palladium powder, particle size-20 mesh | 99.99 |
| 19368 | Palladium (II) Oxide | 99.999 |
| 19371 | Platinum Powder | 99.999 |
| 43720 | Hydrogen Hexachloroplatinate(IV) hydrate | 99.999 |
| 43717 | Hydrogen tetrachloroaurate hydrate | 99.999 |
| 43709 | Rhodium (III) chloride | 99.99 |

Crystal Growth Technology

Since flame-fusion growth was documented in 1902 by Verneuil for the commercial production of rubies, crystal growth technology has found applications in micro-electronics, communications technology, energy and space technology and medical instrumentation. Modern techniques require the use of high grade materials to prevent flaws forming in the crystals.

Some common Crystal Growth Techniques include:

- Crucible Grown Crystals (Czochralski process)- a crystal is "pulled" out of a quartz crucible filled with melt.
- Micro-pulling-down method – based on the continuous transport of melted substance through micro-channels made in a crucible bottom.
- Flame-fusion (Verneuil) Growth- involves melting finely powdered substances and crystallizing the melted droplets.

Applications of Crystal Growth Technology are:

- Semi-Conductor crystals
- Optical Crystals
- Acousto-Optic Crystals
- Scintillator Crystals
- Lasers
- Jewelry and watches

Typical Acros Organics products used in CGT applications:

| Example products: | | |
|-------------------|---------------------|----------|
| Product ID | Compound | % Purity |
| 31812 | Tellurium(IV) Oxide | 99.9995 |
| 19356 | Neodymium Oxide | 99.999 |
| 19448 | Yttrium Oxide | 99.999 |



Photovoltaic Materials

Monocrystalline silicon, polycrystalline silicon, cadmium telluride (CdTe) and copper indium/gallium selenide (CIGS) materials are commonly used to develop solar energy generators.



CdTe is a thin film that can be deposited on substrates easily and is an ideal semiconductor for photovoltaic applications. Its advantages include simplified manufacturing, it absorbs sunlight efficiently, and there are abundant raw materials.

CIGS is a thin-film that can be deposited on multiple substrates and performs with the highest efficiency of all thin-films. Its advantages are the low relative cost of production, high efficiency, and flexibility of substrates available to bond.

The main benefits of solar photovoltaic electricity are:

- Virtually zero environmental impact.
- Low operating costs, once installed little maintenance cost.
- Reliable operating systems.
- Grid-connected solar electricity can be used locally thus reducing transmission/distribution losses.
- Economically superior where grid connection or fuel transportation is difficult, costly or impossible (islands, satellites, ships).

Typical Acros Organics products used in photovoltaic applications include:

Example products:

| Product ID | Compound | % Purity |
|------------|----------------------|----------|
| 19319 | Indium(III) Chloride | 99.995 |
| 31812 | Tellurium(IV) Oxide | 99.9995 |
| 19307 | Gallium | 99.9999 |
| 19398 | Selenium(IV) Oxide | 99.999 |

Optical Fibers

High purity inorganics can be used as dopants in the glass core and cladding of optical fibers to reduce attenuation by changing the refractive index. They can also be used to amplify optical signals or lasers. The optical fibers have applications in communications, sensors, lighting and analytical industries.

A standard optical wire consists of the glass core, the cladding and the buffer coating.

The core is made with a higher index of refraction, an optical parameter that is a measure of the speed of light in the material, than the cladding, resulting in "total internal reflection", or trapping the light in the core and thus reducing attenuation or light intensity loss. The buffer coating protects the fiber from the environment.

The main benefits of optical fibers are:

- Lower cost to manufacture than copper.
- Lower power usage needed to send signal and no need to boost signal once sent.
- Lighter and thinner allowing for more fibers to be fit into a cable.
- Higher capacity to transmit data (~1 terabit/second vs ~50 megabits for copper).
- Better signal integrity with little degradation.
- Can be used in dangerous environments where electrical signals could cause hazards (from pool lighting to flammable environments).

Applications of optical fibers:

- Communications
- Sensors
- Lighting
- Medical probes/Medical imaging
- Spectroscopy of large objects, permanent structures, gaseous environments

Typical Acros Organics products used in optical fiber applications include:

- Dopants in glass core and cladding to reduce attenuation by changing the refractive index.
- Dopants used as amplifiers of optical signal or lasers. Typically Rare Earth Metals.

Examples products:

| Product ID | Compound | % Purity |
|------------|--------------------------------|----------|
| 19000 | Germanium Dioxide | 99.999 |
| 43718 | Ytterbium Chloride hexahydrate | 99.999 |
| 19302 | Europium (III) Oxide | 99.99 |

Lasers

Inorganic materials are used to dope the gain medium of solid state lasers. When energy is supplied to the crystal the dopant ions enable the crystal to amplify light at the laser wavelength.

Common dopants include Chromium, Neodymium, Ytterbium, Holmium, Thulium, Scandium and Erbium.



Some common uses of lasers are:

- Barcode scanners, presentation pointers
- CD players, laser printers
- Welding tools, metal cutting and etching tools

- Spectroscopy, fluorescence microscopy, Raman spectroscopy
- Defense systems: target marking, guided munitions, H missile defense
- Windshear monitors at airports
- Entertainment light shows

Typical Acros Organics products used in laser technology include:

Example products:

| Product ID | Compound | % Purity |
|------------|-----------------------|----------|
| 19448 | Yttrium (III) Oxide | 99.999 |
| 26430 | Ytterbium Oxide | 99.99 |
| 19396 | Scandium Oxide | 99.999 |
| 19356 | Neodymium (III) Oxide | 99.999 |

Selected Acros Organics Ultra Pure Inorganics

| PRODUCT DESCRIPTION | PRODUCT CODE | CASNO | % PURITY |
|-----------------------------------|--------------------------------------------------------|------------|----------|
| Aluminium chloride | 364810200, 20 GR; 364811000, 100 GR | 7446-70-0 | 99.999 |
| Aluminium isopropoxide | 212230100, 10 GR; 212230500, 50 GR; 212232500, 250 GR | 555-31-7 | 99.99 |
| Aluminium nitrate nonahydrate | 212240100, 10 GR; 212241000, 100 GR | 7784-27-2 | 99.999 |
| Aluminium oxide | 212250250, 25 GR; 212251000, 100 GR | 1344-28-1 | 99.99 |
| Aluminium sulfate | 192430050, 5 GR; 192430250, 25 GR; 192431000, 100 GR | 10043-01-3 | 99.999 |
| Ammonium dihydrogen phosphate | 436790250, 25 GR; 436791000, 100 GR; 436795000, 500 GR | 7722-76-1 | 99.999 |
| Ammonium hexabromoplatinate(IV) | 193740010, 1 GR; 193740020, 2 GR; 193740100, 10 GR | 17363-02-9 | 99.99 |
| Ammonium hexachloroosmate(IV) | 197630010, 1 GR | 12125-08-5 | 99.99 |
| Ammonium hexachlororuthenate(IV) | 436930010, 1 GR | 18746-63-9 | 99.99 |
| Ammonium hexafluorosilicate | 194000100, 10 GR; 194000500, 50 GR; 194002500, 250 GR | 16919-19-0 | 99.999 |
| Ammonium hexafluorotitanate(IV) | 194350100, 10 GR; 194350500, 50 GR; 194352500, 250 GR | 16962-40-6 | 99.99 |
| Ammonium hydrogen difluoride | 436990250, 25 GR; 436991000, 100 GR | 1341-49-7 | 99.999 |
| Ammonium metavanadate | 194400100, 10 GR; 194400500, 50 GR | 7803-55-6 | 99.996 |
| Ammonium molybdate | 193520050, 5 GR; 193520250, 25 GR; 193521000, 100 GR | 13106-76-8 | 99.998 |
| Ammonium nitrate | 436960250, 25 GR; 436961000, 100 GR | 6484-52-2 | 99.999 |
| Ammonium orthoarsenate trihydrate | 192480050, 5 GR | 13477-86-6 | 99.999 |
| Ammonium sulfate | 194150500, 50 GR; 194152500, 250 GR | 7783-20-2 | 99.9999 |
| Ammonium tetrachloroplatinate(II) | 193750010, 1 GR; 193750050, 5 GR | 13820-41-2 | 99.998 |
| Ammonium tetrathiomolybdate | 389530010, 1 GR; 389530100, 10 GR; 389530500, 50 GR | 15060-55-6 | 99.99 |
| Barium bromide | 315380050, 5 GR | 10553-31-8 | 99.999 |
| Barium hydroxide octahydrate | 377820050, 5 GR; 377820250, 25 GR | 12230-71-6 | 99.99 |
| Bismuth oxychloride | 212300100, 10 GR; 212300500, 50 GR; 212302500, 250 GR | 7787-59-9 | 99.99 |



| PRODUCT DESCRIPTION | PRODUCT CODE | CASNO | % PURITY |
|--------------------------------------|-----------------------------------------------------------------------|------------|----------|
| Bismuth(III) chloride | 318350050, 5 GR; 318350250, 25 GR | 7787-60-2 | 99.999 |
| Bismuth(III) nitrate pentahydrate | 315150050, 5 GR; 315150250, 25 GR; 315151000, 100 GR | 10035-06-0 | 99.999 |
| Bismuth(III) oxide | 192620100, 10 GR | 1304-76-3 | 99.9999 |
| Boric acid | 315181000, 100 GR; 315185000, 500 GR | 10043-35-3 | 99.99 |
| Cadmium carbonate | 212320050, 5 GR | 513-78-0 | 99.999 |
| Cadmium chloride | 296330050, 5 GR; 296330250, 25 GR | 10108-64-2 | 99.99 |
| Calcium carbonate | 437190050, 5 GR; 437190250, 25 GR | 471-34-1 | 99.999 |
| Calcium hydroxide | 385610050, 5 GR | 1305-62-0 | 99.995 |
| Cerium(III) sulfate | 378660500, 50 GR; 378662500, 250 GR | 13454-94-9 | 99.99 |
| Cerium(III) sulfate octahydrate | 192790500, 50 GR; 192792500, 250 GR | 10450-59-6 | 99.99 |
| Cesium carbonate | 278020100, 10 GR; 278020500, 50 GR | 534-17-8 | 99.995 |
| Cesium chloride | 192810100, 10 GR; 192810500, 50 GR; 192812500, 250 GR | 7647-17-8 | 99.999 |
| Cesium iodide | 192820010, 1 GR; 192820100, 10 GR; 192820500, 50 GR | 7789-17-5 | 99.999 |
| Cesium nitrate | 192070500, 50 GR; 192072500, 250 GR | 7789-18-6 | 99.99 |
| Chromium nitrate nonahydrate | 437100050, 5 GR | 7789-02-8 | 99.99 |
| cis-Dichlorodiamineplatinum(II) | 193762500, 250MG; 193760010, 1 GR; 193760050, 5 GR | 15663-27-1 | 99.99 |
| Cobalt | 192850050, 5 GR; 192850250, 25 GR | 7440-48-4 | 99.999 |
| Cobalt(II) sulfate hydrate | 379600100, 10 GR; 379600500, 50 GR | 60459-08-7 | 99.999 |
| Copper | 437050250, 25 GR; 437051250, 125 GR | 7440-50-8 | 99.9998 |
| Copper(I) chloride | 212420100, 10 GR; 212421000, 100 GR | 7758-89-6 | 99.99 |
| Copper(I) iodide | 201500050, 5 GR; 201500250, 25 GR; 201501000, 100 GR | 7681-65-4 | 99.995 |
| Erbium chloride hydrate | 192980250, 25 GR | 19423-85-9 | 99.997 |
| Europium(III) chloride hexahydrate | 193010010, 1 GR; 193010050, 5 GR; 193010250, 25 GR | 13759-92-7 | 99.99 |
| Europium(III) fluoride | 316170010, 1 GR | 13765-25-8 | 99.99 |
| Europium(III) oxide | 193020010, 1 GR; 193020050, 5 GR; 193020250, 25 GR | 1308-96-9 | 99.99 |
| Europium(III) sulfate octahydrate | 193030010, 1 GR | 10031-55-7 | 99.99 |
| Gadolinium(III) nitrate pentahydrate | 202800100, 10 GR; 202800500, 50 GR; 202802500, 250 GR | 52788-53-1 | 99.999 |
| Gallium | 193070010, 1 GR; 193070050, 5 GR; 193070250, 25 GR | 7440-55-3 | 99.9999 |
| Gallium(III) nitrate hydrate | 212440010, 1 GR; 212440050, 5 GR; 212440250, 25 GR; 212441000, 100 GR | 69365-72-6 | 99.9998 |
| Germanium | 193110010, 1 GR; 193110100, 10 GR; 193110500, 50 GR | 7440-56-4 | 99.999 |
| Germanium dioxide | 190000100, 10 GR; 190000500, 50 GR | 1310-53-8 | 99.999 |
| Germanium tetrachloride | 197150050, 5 GR; 197150250, 25 GR; 197151000, 100 GR | 10038-98-9 | 99.99 |
| Gold | 437140010, 1 GR; 437140050, 5 GR | 7440-57-5 | 99.999 |
| Hafnium(IV) oxide | 193140010, 1 GR; 193140050, 5 GR | 12055-23-1 | 99.99 |
| Hexaamminecobalt(III) chloride | 192870050, 5 GR; 192870100, 10 GR | 10534-89-1 | 99.999 |
| Hydrogen hexachloroplatinate hydrate | 437200010, 1 GR; 437200050, 5 GR | 26023-84-7 | 99.999 |
| Hydrogen tetrachloroaurate hydrate | 437170010, 1 GR; 437170050, 5 GR | 27988-77-8 | 99.999 |
| Indium | 193180050, 5 GR; 193180250, 25 GR | 7440-74-6 | 99.999 |
| Indium(III) acetate | 436980100, 10 GR; 436980500, 50 GR | 25114-58-3 | 99.99 |
| Indium(III) bromide | 389030100, 10 GR; 389030500, 50 GR | 13465-09-3 | 99.99 |
| Indium(III) chloride | 193190100, 10 GR; 193190500, 50 GR; 193192500, 250 GR | 10025-82-8 | 99.995 |
| Indium(III) iodide | 316010010, 1 GR; 316010050, 5 GR; 316010250, 25 GR | 13510-35-5 | 99.998 |
| Indium(III) oxide | 193170050, 5 GR; 193170250, 25 GR | 1312-43-2 | 99.9997 |



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| PRODUCT DESCRIPTION | PRODUCT CODE | CASNO | % PURITY |
|------------------------------------|--------------------------------------------------------|------------|----------|
| Iron | 437110050, 5 GR; 437110250, 25 GR | 7439-89-6 | 99.995 |
| Iron(III) nitrate nonahydrate | 436810250, 25 GR | 7782-61-8 | 99.9995 |
| Iron(III) oxide | 193260100, 10 GR; 193260500, 50 GR; 193262500, 250 GR | 1309-37-1 | 99.999 |
| Lanthanum chloride heptahydrate | 193271000, 100 GR; 193275000, 500 GR | 10025-84-0 | 99.99 |
| Lanthanum(III) nitrate hexahydrate | 193280050, 5 GR; 193281000, 100 GR; 193285000, 500 GR | 10277-43-7 | 99.999 |
| Lanthanum(III) oxide | 193291000, 100 GR; 193295000, 500 GR | 1312-81-8 | 99.99 |
| Lead telluride | 277610050, 5 GR; 277610250, 25 GR | 1314-91-6 | 99.99 |
| Lead(II) acetate trihydrate | 317230050, 5 GR; 317230250, 25 GR | 6080-56-4 | 99.999 |
| Lead(II) fluoride | 212520250, 25 GR | 7783-46-2 | 99.99 |
| Lead(II) nitrate | 193320100, 10 GR; 193320500, 50 GR | 10099-74-8 | 99.999 |
| Lithium bromide | 212530250, 25 GR; 212532500, 250 GR | 7550-35-8 | 99.999 |
| Lithium carbonate | 193360100, 10 GR; 193361000, 100 GR | 554-13-2 | 99.999 |
| Lithium nitrate | 212540050, 5 GR; 212540250, 25 GR; 212541000, 100 GR | 7790-69-4 | 99.999 |
| Lutetium(III) oxide | 193400010, 1 GR | 12032-20-1 | 99.99 |
| Magnesium nitrate hexahydrate | 193420100, 10 GR; 193420500, 50 GR | 13446-18-9 | 99.9995 |
| Magnesium oxide | 193430100, 10 GR; 193430500, 50 GR | 1309-48-4 | 99.99 |
| Manganese acetate tetrahydrate | 212560500, 50 GR | 6156-78-1 | 99.999 |
| Manganese(II) oxide | 436970010, 1 GR; 436970100, 10 GR | 1344-43-0 | 99.99 |
| Mercury | 193480500, 50 GR; 193482500, 250 GR | 7439-97-6 | 99.999 |
| Molybdenum(VI) oxide | 193530050, 5 GR; 193530250, 25 GR | 1313-27-5 | 99.999 |
| Neodymium(III) nitrate hexahydrate | 202810025, 2.5 GR | 16454-60-7 | 99.99 |
| Neodymium(III)-oxide | 193560100, 10 GR; 193560500, 50 GR | 1313-97-9 | 99.999 |
| Nickel | 436780500, 50 GR | 7440-02-0 | 99.999 |
| Nickel(II) chloride | 378350050, 5 GR; 378350250, 25 GR | 7718-54-9 | 99.999 |
| Nickel(II) chloride hexahydrate | 193570050, 5 GR; 193570250, 25 GR; 193571000, 100 GR | 7791-20-0 | 99.9999 |
| Niobium(V) oxide | 193630100, 10 GR; 193630500, 50 GR; 193632500, 250 GR | 1313-96-8 | 99.99 |
| Palladium | 437020010, 1 GR; 437020050, 5 GR | 7440-05-3 | 99.995 |
| Palladium(II) chloride | 369670010, 1 GR; 369670050, 5 GR; 369670250, 25 GR | 7647-10-1 | 99.999 |
| Palladium(II) oxide | 193680010, 1 GR; 193680050, 5 GR | 1314-08-5 | 99.999 |
| Perrhenic(VII)acid | 316180050, 5 GR; 316180250, 25 GR | 13768-11-1 | 99.99 |
| Phosphorus, red | 318240050, 5 GR; 318240250, 25 GR | 7723-14-0 | 99.999 |
| Platinum | 193710010, 1 GR | 7440-06-4 | 99.999 |
| Potassium bromide | 436950100, 10 GR; 436950500, 50 GR | 7758-02-3 | 99.999 |
| Potassium chloride | 268960250, 25 GR; 268961000, 100 GR | 7447-40-7 | 99.999 |
| Potassium fluoride | 146000050, 5 GR; 146000250, 25 GR | 7789-23-3 | 99.99 |
| Potassium hydrogen phthalate | 177121000, 100 GR; 177125000, 500 GR; 177120025, 2.5KG | 877-24-7 | 99.99 |
| Potassium hydroxide | 437131000, 100 GR; 437135000, 500 GR | 1310-58-3 | 99.99 |
| Potassium iodide | 193790100, 10 GR; 193790500, 50 GR; 193792500, 250 GR | 7681-11-0 | 99.995 |
| Potassium nitrate | 193800100, 10 GR; 193800500, 50 GR; 193802500, 250 GR | 7757-79-1 | 99.999 |
| Potassium tetrachloroplatinate | 437030010, 1 GR; 437030050, 5 GR | 10025-99-7 | 99.99 |
| Potassium tetraiodomercurate(II) | 391090010, 1 GR; 391090050, 5 GR | 7783-33-7 | 99.99 |
| Rhodium(III) chloride hydrate | 437092500, 250MG; 437090010, 1 GR | 20765-98-4 | 99.99 |
| Rubidium chloride | 193920100, 10 GR; 193920500, 50 GR | 7791-11-9 | 99.99 |



| PRODUCT DESCRIPTION | PRODUCT CODE | CASNO | % PURITY |
|---------------------------------------------|--------------------------------------------------------|-------------|----------|
| Scandium(III) oxide | 193960010, 1 GR; 193960050, 5 GR | 12060-08-1 | 99.999 |
| Selenious acid | 437120500, 50 GR | 7783-00-8 | 99.999 |
| Selenium(IV) oxide | 193980100, 10 GR; 193980500, 50 GR | 7446-08-4 | 99.999 |
| Silicon dioxide | 437150050, 5 GR; 437150200, 20 GR; 437151000, 100 GR | 60676-86-0 | 99.999 |
| Silver chloride | 194040010, 1 GR; 194040050, 5 GR; 194040250, 25 GR | 7783-90-6 | 99.9999 |
| Silver iodide | 194060100, 10 GR | 7783-96-2 | 99.999 |
| Sodium carbonate | 436800050, 5 GR; 436800250, 25 GR | 497-19-8 | 99.999 |
| Sodium chloride | 437040050, 5 GR; 437040200, 20 GR; 437041000, 100 GR | 7647-14-5 | 99.999 |
| Sodium iodide | 212680010, 1 GR; 212680100, 10 GR; 212681000, 100 GR | 7681-82-5 | 99.999 |
| Sodium nitrate | 437160100, 10 GR; 437160500, 50 GR | 7631-99-4 | 99.999 |
| Sodium thiosulfate pentahydrate | 436940250, 25 GR; 436941000, 100 GR | 10102-17-7 | 99.999 |
| Strontium chloride | 369740050, 5 GR; 369740250, 25 GR | 10476-85-4 | 99.99 |
| Sulfur | 199930100, 10 GR; 199930500, 50 GR; 199932500, 250 GR | 7704-34-9 | 99.999 |
| Tantalum(V) chloride | 203910050, 5 GR; 203910250, 25 GR; 203911000, 100 GR | 7721-01-9 | 99.99 |
| Tantalum(V) oxide | 194170100, 10 GR; 194170500, 50 GR | 1314-61-0 | 99.99 |
| Tellurium | 437010250, 25 GR; 437011000, 100G | 13494-80-9 | 99.999 |
| Tellurium(IV) oxide | 318120050, 5 GR | 7446-07-3 | 99.9995 |
| Terbium(III) nitrate pentahydrate | 202820020, 2 GR | 57584-27-7 | 99.999 |
| Terbium(III, IV) oxide | 194210020, 2 GR; 194210100, 10 GR | 12037-01-3 | 99.999 |
| Tetraammineplatinum(II) chloride hydrate | 437005000, 500MG; 437000050, 5 GR | 108374-32-9 | 99.999 |
| Tetrakis(dimethylamino)titanium | 353560050, 5 GR; 353560250, 25 GR | 3275-24-9 | 99.99 |
| Thallium(I) nitrate | 194240100, 10 GR | 10102-45-1 | 99.999 |
| Thulium(III)-sulfate octahydrate | 194290050, 5 GR | 13778-40-0 | 99.99 |
| Tin | 325840010, 1 GR | 7440-31-5 | 99.999 |
| Tin(IV) chloride | 203380500, 50 GR | 7646-78-8 | 99.999 |
| Titanium(IV) oxide | 194340010, 1 GR; 194340050, 5 GR; 194340250, 25 GR | 13463-67-7 | 99.999 |
| Tris(triphenylphosphine)rhodium(I) chloride | 194572500, 250MG; 194570010, 1 GR; 194570050, 5 GR | 14694-95-2 | 99.99 |
| Ytterbium(III) chloride hexahydrate | 437180100, 10 GR; 437180500, 50 GR | 10035-01-5 | 99.999 |
| Ytterbium(III) oxide | 264300100, 10 GR | 1314-37-0 | 99.99 |
| Yttrium fluoride | 299770050, 5 GR; 299770500, 50 GR | 13709-49-4 | 99.99 |
| Yttrium(III) chloride hexahydrate | 194470100, 10 GR | 10025-94-2 | 99.999 |
| Yttrium(III) oxide | 194480020, 2 GR; 194480100, 10 GR; 194480500, 50 GR | 1314-36-9 | 99.999 |
| Zinc | 194500050, 5 GR; 194500500, 50 GR | 7440-66-6 | 99.9999 |
| Zinc bromide | 212770025, 2.5 GR; 212770100, 10 GR; 212770500, 50 GR | 7699-45-8 | 99.999 |
| Zinc chloride | 318170100, 10 GR; 318170500, 50 GR | 7646-85-7 | 99.99 |
| Zinc iodide | 212760050, 5 GR; 212760250, 25 GR | 10139-47-6 | 99.999 |
| Zinc oxide | 315790250, 25 GR; 315791000, 100 GR | 1314-13-2 | 99.999 |
| Zinc selenide | 223640100, 10 GR; 223640250, 25 GR | 1315-09-9 | 99.99 |
| Zinc sulfide | 223650250, 25 GR; 223651000, 100 GR; 223655000, 500 GR | 1314-98-3 | 99.99 |
| Zirconium sulfate tetrahydrate | 194550250, 25 GR | 7446-31-3 | 99.99 |
| Zirconyl chloride hydrate | 388470100, 10 GR; 388470500, 50 GR | 15461-27-5 | 99.99 |

GLOBAL LOCATIONS

AMERICAS

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Post Code: 30024
Toll-Free Number: 770-871-4725
Fax: 770-871-4726
www.fishersci.com

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Fisher HealthCare
9999 Veterans Memorial Drive
Houston, TX
Post Code: 77038
Toll-Free Number: 800-640-0640
Fax: 800-290-0290
www.fisherhealthcare.com

Fisher Scientific
300 Industry Drive
Pittsburgh, PA
Post Code: 15275
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ASIA

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