

thermo scientific



Chemicals

# Thermo Scientific platinum products

an exceptional precious metal

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# Thermo Scientific Platinum products

78

Pt

The metal platinum is not only known for its lustrous color, but also for its stability, strength, rarity, and density. It has the symbol 'Pt' and atomic number 78 and is one of the rarest elements in the Earth's crust. Platinum is very dense, stable, non-toxic and is a good conductor of electricity. About 80% of the platinum that is used worldwide is found in South Africa, and Russia is another leading producer of platinum. Only an ounce of platinum is obtained from 10 tons of ore and only a few hundred tons are produced annually. Due to its high demand as a catalyst, and low supply, platinum is a valuable and precious metal.

Historically, platinum is first known as a by-product from silver mining operations in Columbia during the 16th Century.

It was named 'platina', meaning 'little silver', and was discarded as it was considered an impurity, and also a nuisance as it has a very similar appearance to silver. The first written account of platinum was from Julius C. Scaliger in 1557.

Explore our Premion™ line of precious metal compounds and pure elements. The minimum purity of our Premion line of products is 99.99% (metals basis). Premion pure elements include: Platinum (Pt), Palladium (Pd), Rhodium (Rh), Iridium (Ir), Ruthenium (Ru), Osmium, Silver (Ag), and Gold (Au).

## Key Features

- Large selection of platinum compounds can be manufactured up to a purity of 99.999%
- Most other platinum products are manufactured to 99.9% purity as standard
- A batch specific certificate of analysis is produced for each product
- Each platinum product batch has:
  - Full metallic impurities typically measured by ICP-MS to ppm
  - Measured platinum content
- Specialized platinum compounds outside our catalog range can be manufactured on request
- Precious metal reclamation services



## Application highlights

### Platinum in chemistry

The most common application of platinum is as a catalyst in chemical reactions. In industry, it is used in: the hydrogenation of benzene to produce cyclohexane, the raw material for nylon; fuel cells for the reduction of oxygen; the production of higher-octane gasoline; the manufacture of specialty silicones; and the hydrogenation of vegetable oils. Platinum and its alloys are used in the manufacture of crucibles and evaporating dishes for chemical analyses. In the research lab, organometallic complexes of platinum are used as reagents for the synthesis of many useful and interesting organic compounds.

Our portfolio includes a range of supported and unsupported platinum catalysts, versatile platinum complexes, and platinum labware.

### Platinum in emission control devices

Records show that in 2014, 98 tons of platinum (about 45% of total platinum mined) were used in emission control devices called catalytic converters which help convert over 90% of harmful elements like hydrocarbons, carbon monoxide, and oxides of nitrogen from gasoline engines into less harmful carbon dioxide, nitrogen, and water vapor. Over 98% of all new vehicles come with catalytic converters.

Browse our range of supported and unsupported platinum catalysts.

### Platinum in aerospace

Platinum is used in multiple ways in the manufacture of aircraft engine parts: in the coating of jet engine fuel nozzles and turbine blades used to protect against hot corrosion and oxidation, as a pinning wire to hold the ceramic cores within the aircraft turbine blade during casting, and in aerospace spark plugs and thermocouples. It is also used in the coating of missile cones.

Browse our diverse portfolio of pure platinum forms and alloys.

### Platinum in medicine/chemotherapy

The discovery of platinum's most remarkable and unexpected ability, in certain chemical forms, to inhibit the division of living cells led to the development of platinum-based drugs which are now used to treat a wide range of cancers. The drug cisplatin, along with its successor drug carboplatin have played a vital role in the treatment of testicular, ovarian, breast, lung cancer other common cancers.

Browse our platinum compounds, including cisplatin and carboplatin.

### Platinum in agriculture

Platinum-rhodium catalysts are used in the manufacture nitric acid, which in turn is used to produce the ammonia found in many liquid fertilizers for agricultural applications.

Browse our supported and unsupported platinum catalysts.

### Platinum in jewelry

The least reactive precious metal, known for its resistance to corrosion and oxidation at any temperature as well as for its ductility, malleability and silvery sheen, platinum is commonly used in jewelry. In 2010, 76 tons of platinum (about 31% of the platinum mined) was used in jewelry.

Browse our diverse portfolio of pure platinum forms and alloys.

### Precious metal reclamation services

We offer a labware recovery program which is very unique in the industry. This program is a cost-effective way to purchase new labware by returning your used labware for credit. We offer the highest reclaim available with many replacement crucibles in stock ready to ship.

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78

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## Pure platinum products

Fisher Scientific Cat. No.	Description	Size
AA42902	Platinum 13 wt% Rhodium wire, 0.076mm (0.003in) dia, ISA Type R Standard Grade Thermocouple	50 cm, 2 m
AA00860	Platinum foil, 0.635mm (0.025in) thick, 99.9% (metals basis)	25 × 25 mm, 50 × 50 mm
AA13374	Platinum slug, 6.35mm (0.25in) dia x 12.7mm (0.50in) length, Premion™, 99.99+% (metals basis)	1 pc
AA41632	Platinum Thinfoil, 0.00125mm (0.00005in) thick, hard, 99.95% (metals basis)	25 × 25 mm
AA47145	Platinum powder, amorphous, APS 2.0-8.0 micron, 99.9% (metals basis)	100 mg, 1 g, 5 g
AA00719	Platinum shot, 0.1-3mm (0.004-0.1in), 99.9% (metals basis)	1 g, 5 g
AA44196	Platinum wire, 0.01mm (0.0004in) dia, 99.9% (metals basis)	1 m, 10 cm
AA12236	Platinum granules, 6.35mm (0.25in) & down, 99.95% (metals basis)	1 g, 5 g
AA12556	Platinum rod, 6.35mm (0.25in) dia, Premion™, 99.99% (metals basis)	10 mm
AA40419	Platinum slug, 6.35mm (0.25in) dia x 6.35mm (0.25in) length, 99.95% (metals basis)	1 pc
AA12074	Platinum sponge, -60 mesh, 99.98% (metals basis)	1 g, 5 g
AA46966	Platinum gauze, Unimesh N7433, expanded metal mesh, 0.34mm (0.013in) thick	25 × 25 mm, 50 × 50 mm
AA12076	Platinum black	0.1 g, 1 g, 5 g

Full product listing is available online.

## Platinum compounds

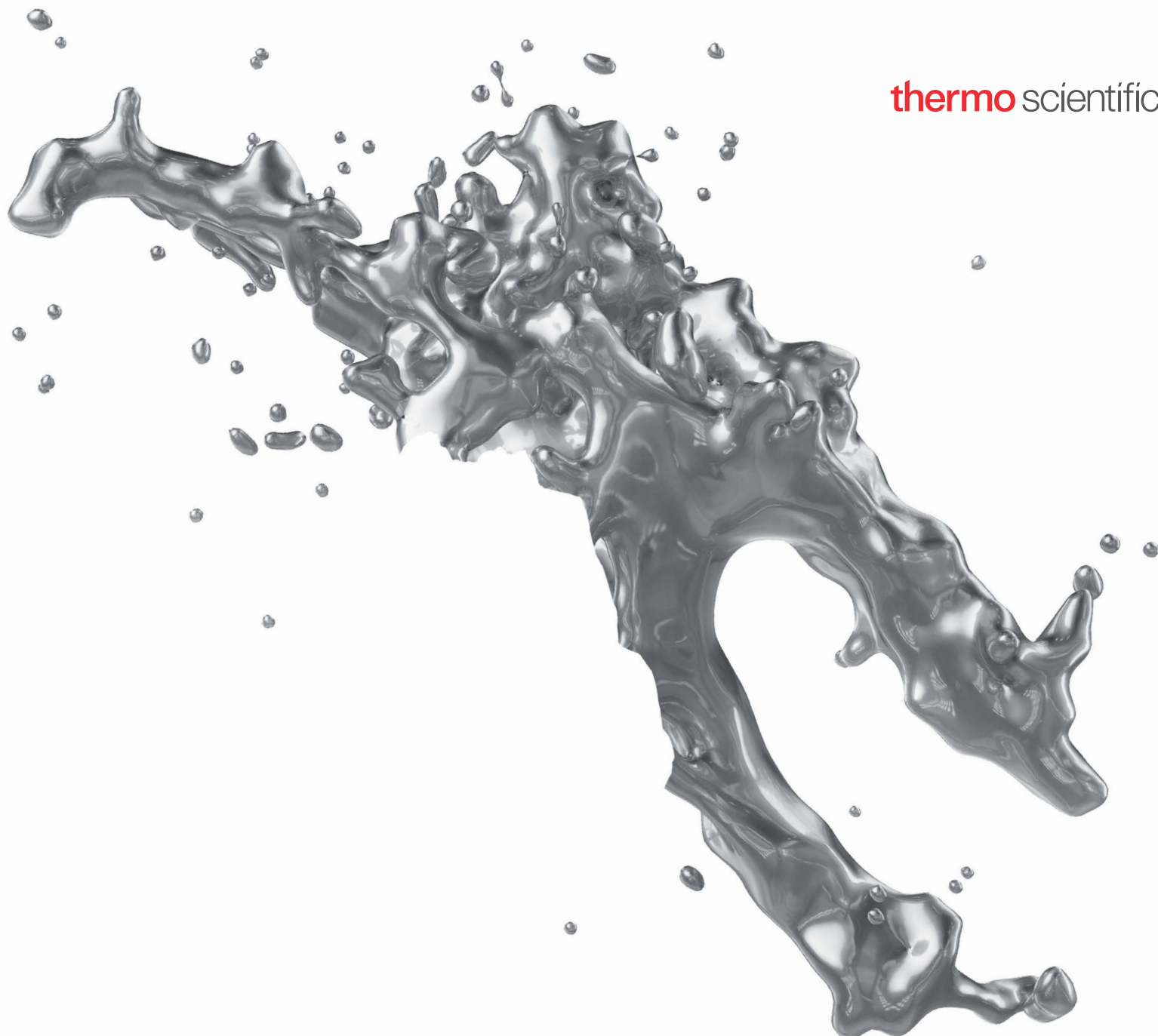
Fisher Scientific Cat. No.	Description	Size
AC19532	Platinum(IV) oxide, 83% Pt	1 g, 5 g
AA10526	Platinum(II) 2,4-pentanedionate, Pt 48.0% min	1 g, 5 g
AA88960	Tetraammineplatinum(II) nitrate	1 g, 5 g
AAA16549	Platinum(II) chloride, 98%	1 g, 5 g
AA41508	Platinum (0)-1,3-divinyl-1,1,3,3-tetramethyldisiloxane complex, soln. in vinyl terminated polydimethylsiloxane	1 g, 5 g, 25 g
AC19540	Platinum(IV) chloride, 99%	250 mg, 1 g, 5 g
AA43897	Tetraammineplatinum(II) nitrate, Premion™, 99.99% (metals basis), Pt 50% min	0.25 g, 1 g, 5 g
AAH37737	Platinum(IV) nitrate, solution, Pt 15% w/w	1 g, 10 g
AA11045	Platinum(IV) chloride, 99.9% (metals basis), Pt 57% min	1 g, 5 g
AA10471	cis-Diamminedichloroplatinum(II), Pt 64.5% min	0.25 g, 1 g, 5 g
AC19538	Platinum(II) chloride, 73% Pt	250 mg, 1 g, 5 g, 25 g

Full product listing is available online.

## Platinum labware

Fisher Scientific Cat. No.	Description	Size
AA46870	Platinum standard form crucible, Top OD 35mm, Bot Dia 21mm, Ht 39mm, Base Thickness 0.3mm, Capacity 25mL	1 each
AA46508	Platinum Combustion Boat, Top length 80mm, width 10mm, Ht 8mm, Base Thickness 0.20mm, Capacity ≈ 6.0mL	1 each
AA46992	Platinum straight wall crucible, Top OD 60mm, Bot Dia 50mm, Ht 55mm, Base Thickness 0.5mm, Capacity 130mL	1 each
AA46362	Bowed Stainless Steel Tong with Platinum Tips, Length 200mm	1 each
AA46407	Platinum Lid for Standard form crucible, Dia 32mm	1 each
AA46489	Platinum crucible with reinforced rim, Top Dia 32mm, Bot Dia 19.5mm, Ht 27mm, Base Thickness 0.25mm, Capacity 15mL	1 each
AA46371	Platinum standard form crucible, Top OD 32mm, Bot Dia 19.5mm, Ht 27mm, Base Thickness 0.25mm, Capacity 15mL	1 each
AA46961	Platinum Lid for Standard form crucible, Dia 19.5mm	1 each
AA46916	Platinum standard form crucible, Top OD 20.5mm, Bot Dia 12mm, Ht 22mm, 5mL	1 each
AA46577	Platinum crucible with reinforced rim, Top Dia 32.5mm, Bot Dia 18mm, Ht 36mm, Base Thickness 0.3mm, Capacity 20mL	1 each
AA46739	Platinum Lid for Standard form crucible, Dia 32.5mm	1 each
AA46656	Platinum crucible with reinforced rim, Top Dia 68mm, Bot Dia 41mm, Ht 74mm, Base Thickness 0.48mm, Capacity 200mL	1 each
AA46670	Platinum standard form crucible, Top OD 55mm, Bot Dia 36mm, Ht 60mm, Capacity 100mL	1 each
AA46545	Platinum Shoniger Basket, Dia 7mm, Ht 20mm, overall Ht 70mm	1 each
AA46520	Platinum standard form crucible, Top OD 32.5mm, Bot Dia 18mm, Ht 36mm, Base Thickness 0.3mm, Capacity 20mL	1 each

Full product listing is available online.



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