



Chemicals

# Thermo Scientific platinum products

an exceptional precious metal

# 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.

# Thermo Scientific Platinum products

78

Pt

## Pure platinum products

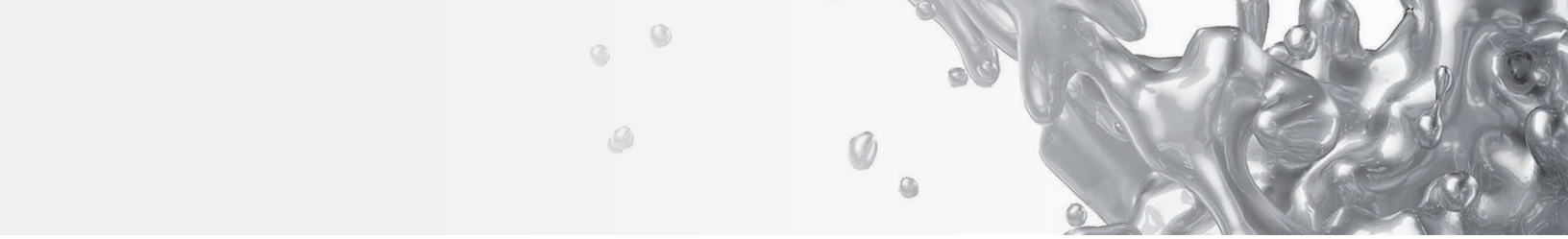
VWR Cat. No.	Description	Size
AA00860-FF	Platinum foil, 0.635mm (0.025in) thick, 99.9% (metals basis)	25 × 25 mm, 50 × 50 mm
AA13374-KG	Platinum slug, 6.35mm (0.25in) dia x 12.7mm (0.50in) length, Premion™, 99.99+% (metals basis)	1 pc
AA41632-FF	Platinum Thinfoil, 0.00125mm (0.00005in) thick, hard, 99.95% (metals basis)	25 × 25 mm
AA47145-MC	Platinum powder, amorphous, APS 2.0-8.0 micron, 99.9% (metals basis)	100 mg, 1 g, 5 g
AA00719-03	Platinum shot, 0.1-3mm (0.004-0.1in), 99.9% (metals basis)	1 g, 5 g
AA44196-G1	Platinum wire, 0.01mm (0.0004in) dia, 99.9% (metals basis)	1 m, 10 cm
AA12236-03	Platinum granules, 6.35mm (0.25in) & down, 99.95% (metals basis)	1 g, 5 g
AA12556-HF	Platinum rod, 6.35mm (0.25in) dia, Premion™, 99.99% (metals basis)	10 mm
AA40419-KG	Platinum slug, 6.35mm (0.25in) dia x 6.35mm (0.25in) length, 99.95% (metals basis)	1 pc
AA12074-03	Platinum sponge, -60 mesh, 99.98% (metals basis)	1 g, 5 g
AA46966-FF	Platinum gauze, Unimesh N7433, expanded metal mesh, 0.34mm (0.013in) thick	25 × 25 mm, 50 × 50 mm
AA12076-77	Platinum black	0.1 g, 1 g, 5 g

Full product listing is available online.

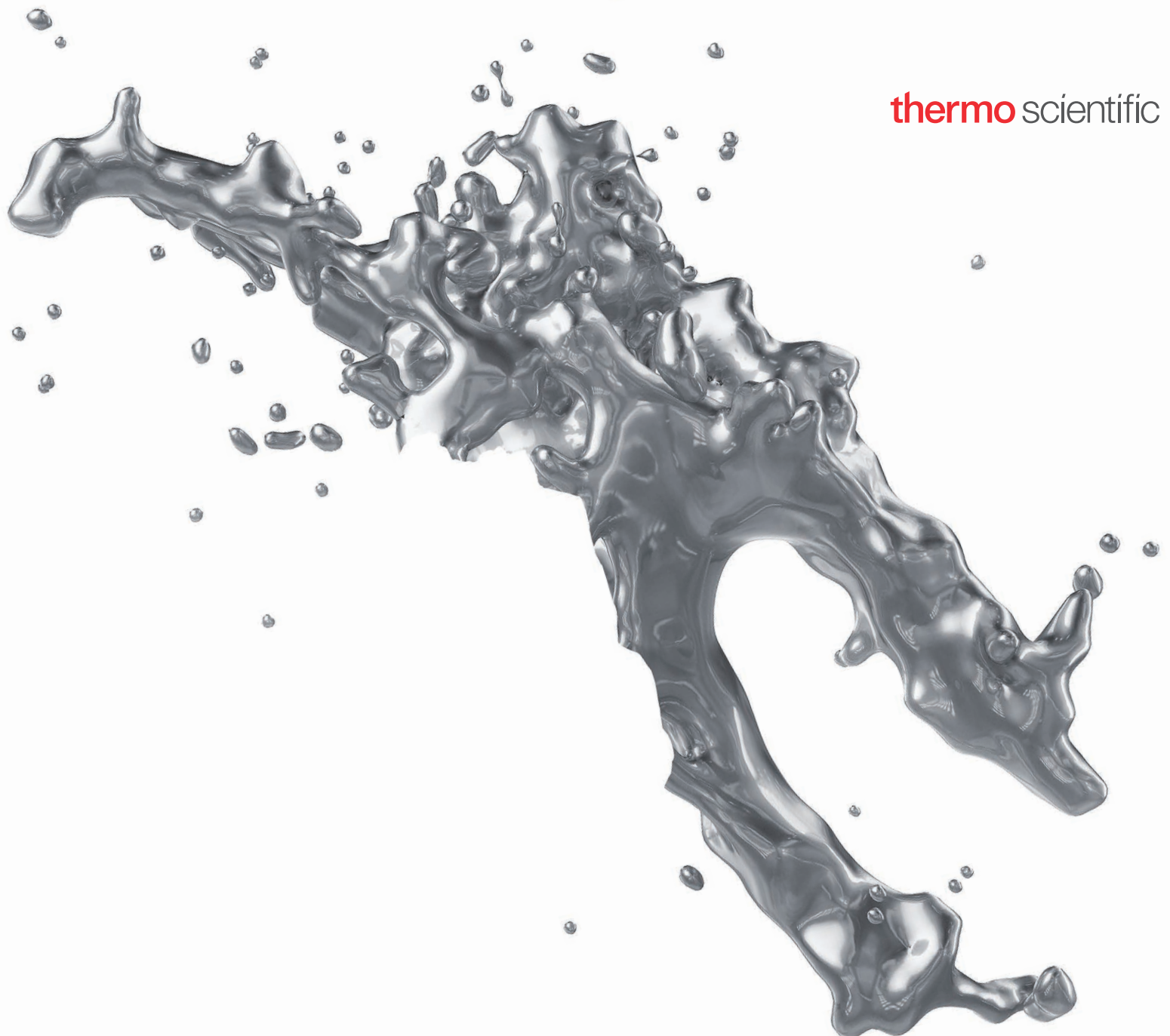
## Platinum compounds

VWR Cat. No.	Description	Size
AA10526-03	Platinum(II) 2,4-pentanedionate, Pt 48.0% min	1 g, 5 g
AA88960-03	Tetraammineplatinum(II) nitrate	1 g, 5 g
AA41508-03	Platinum (0)-1,3-divinyl-1,1,3,3-tetramethyldisiloxane complex, soln. in vinyl terminated polydimethylsiloxane	1 g, 5 g, 25 g
AA43897-01	Tetraammineplatinum(II) nitrate, Premion™, 99.99% (metals basis), Pt 50% min	0.25 g, 1 g, 5 g
AAH37737-03	Platinum(IV) nitrate, solution, Pt 15% w/w	1 g, 10 g
AA11045-03	Platinum(IV) chloride, 99.9% (metals basis), Pt 57% min	1 g, 5 g
AA10471-01	cis-Diamminedichloroplatinum(II), Pt 64.5% min	0.25 g, 1 g, 5 g

Full product listing is available online.



thermo scientific



**avantor**<sup>™</sup>  
delivered by **VWR**<sup>™</sup>

VWR.COM

Prices, product, and/or services details are current when published and subject to change without notice. | Certain products or services may be limited by federal, state, provincial, or local regulations. | VWR, part of Avantor, makes no claims or warranties concerning sustainable/green products. Any claims concerning sustainable/green products are the sole claims of the manufacturer and not those of VWR International, LLC and/or Avantor, Inc. or affiliates. All prices are in US dollars unless otherwise noted. Offers valid in US and Canada unless otherwise noted, void where prohibited by law or company policy, while supplies last. | Trademarks are owned by Avantor, Inc. or its affiliates, unless otherwise noted. | Visit [vwr.com](http://vwr.com) to view our privacy policy, trademark owners, and additional disclaimers. © 2022 Avantor, Inc. All rights reserved.

Order our products online  
[vwr.com/thermoscientific\\_chemicals](http://vwr.com/thermoscientific_chemicals)

0722 Lit. No. 200245WREV