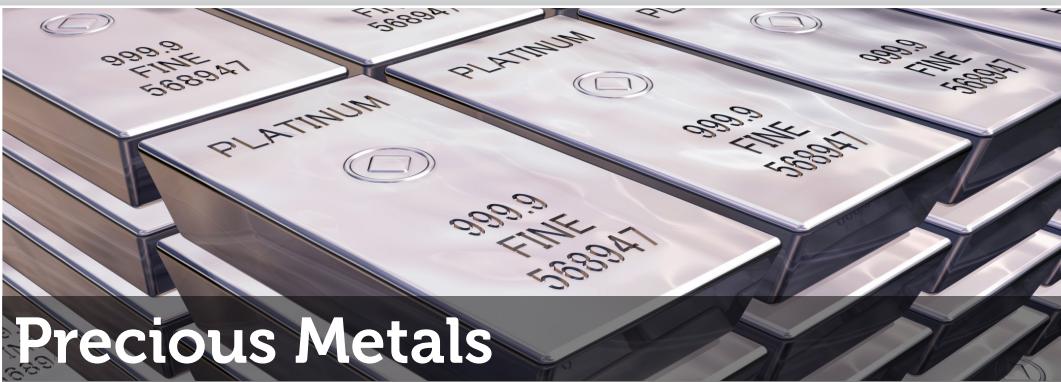


Reading About Recycling:



Precious Metals

Here's a quick trivia question: What part of your car might eventually become jewelry? If you answered the catalytic converter, you'd be right. And if you don't already know what that part is, read on.

When cars use gasoline or diesel fuel, they release toxic emissions. These are products of burning the fuel that can harm people and the environment. While new cars release less than older ones, there are always some pollutants to catch. Almost all cars today have a "pollution catching" device called a catalytic converter. It sits near the end of the exhaust pipe, and catches carbon monoxide, unburned hydrocarbons, and nitrogen oxides.

A catalytic converter is often made of a ceramic (like china) inside a steel case. The gasses and other materials that come out of the car engine go through a maze with a rough surface. In this maze, a chemical catalyst changes the pollutants into less harmful chemicals. A catalyst is any chemical that makes a chemical reaction occur more quickly. These chemical reactions break down poisonous toxic gasses.

One of the most common catalysts used in cars is the chemical platinum. On the periodic table, its symbol is Pt. Palladium (Pd) and Rhodium (Rh) might also be used. These metals are more valuable than gold. Even though only a few ounces of platinum are needed for a catalytic converter, its high cost makes it a valuable material to recycle. So before a car is shredded, the catalytic converter is almost always removed and sent to a special site.

Like other metals, platinum can be used again and again. It is used in jewelry because it almost never corrodes (rusts). It is also very valuable in making electrodes, and a compound of platinum is the most common chemical used to treat cancer in chemotherapy.

26 Fe IRON 55.845	27 Co COBALT 58.933	28 Ni NICKEL 58.6934
44 Ru RUTHENIUM 101.07	45 Rh RHODIUM 102.90	46 Pd PALLADIUM 106.42
76 Os OSMIUM 190.23	77 Ir IRIDIUM 192.217	78 Pt PLATINUM 195.084
108 Hs HASSIUM (270)	109 Mt MEITNERIUM (276)	110 Ds DARMSTADTIUM (281)

Comprehension Questions:

1. Name two properties of platinum: _____
2. Why should cars have catalytic converters? _____
3. What elements are near platinum on the periodic table? _____
4. What is a catalyst? _____
5. Find out where platinum naturally comes from and how it is mined. Then, create a diagram to describe the process through which it is mined, used in one product, recycled and used in another. Conduct research to help you as necessary. Why is recycling platinum good for the environment? _____