**The Element Osmium**

Osmium was discovered in 1803 by a British scientist named Smithson Tennant. After dissolving platinum in a mixture of strong acids commonly called aqua regia, he noticed a black residue left behind. This residue was a mixture of osmium and iridium. This is still how osmium is collected today (Thomas).

Osmium is a transition metal in the platinum family with an atomic number of 76 (“Osmium.” *Periodic).* This means that there are 76 protons and electrons in a neutral osmium atom. The average atomic mass is 190.2 amu, but there are seven naturally occurring isotopes. The two most abundant, stable isotopes are 190 and 192 amu (Thomas).

In the metallic state, osmium is blueish white, extremely hard, and brittle. This means that metallic osmium shatters easily. It melts at a hotter temperature than any other platinum metal (“Osmium.” *Periodic*). Osmium is also the densest element, even denser than lead (“Osmium.” *Visual*). However, osmium metal is not the most common form of osmium. Another more common form is osmium tetraoxide, a highly toxic and stinky compound. The name osmium is attributed to this property as osme is the greek word for smell (Thomas).

Because pure osmium is hard to acquire and osmium tetraoxide is toxic, osmium is most commonly found in metal alloys or mixtures. Osmium is a crucial component due to its strength. These alloys have many common uses. Osmium can be found in fountain pen tips, instrument pivots, electrical contacts, and even used to be used in phonograph needles. However, even the toxic tetraoxide is sometimes used to detect fingerprints and stain tissues on microscope slides (“Osmium.” *Periodic).* There are not more uses due to the elements rarity.

**Works Cited**

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