Thallium Encyclopedia Article

Thallium

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Thallium

Thallium is a metal element denoted by the atomic symbol Tl. It has an atomic number of 81 and the average atomic weight of its isotopes is 204.3833. It is normally found as a bluish-gray metal that is so soft it can be cut with a knife. It has a melting point of 579.2°F (304°C) and a boiling point of about 2683.4°F (1473°C).

Thallium was discovered by the British physicist William Crookes while he was examining selenium and other compounds using a spectroscope. While examining the spectra of these elements he noticed a bright, lime green band that did not correspond to any known element. He named the element thallium after the Greek word *thallos* meaning "green twig." At about the same time, this element was isolated by the French chemist C. A. Lamy. Lamy announced his findings shortly after Crookes, and a brief controversy over priority ensued.

In its pure form, thallium is dangerous, particularly when in contact with skin. It is a suspected carcinogen. It is often used in electronic equipment, and one of its compounds, thallium sulfate, is used as a rodenticide and ant poison. Its use as a biocide, however, has been prohibited in the United States since 1975. Another compound, thallium bromide-iodide, is used in crystalline form as an infrared detector. Other thallium compounds are used in the manufacture of imitation diamonds, glass, and as a catalyst.