Barium takes its name from the Greek word barys for heavy. Barium was first discovered in 1774 by Carl Scheele, but was not isolated as a pure metal until 1808 when Sir Humphry Davy electrolyzed molten barium salts. The name Barium comes from the Greek word barys, which means heavy. Barium is a soft, silvery white metal, and has a melting point of 1000 K. Because of its reaction to air, barium cannot be found in nature in its pure form but can be extracted from the mineral barite.

- Atomic Number = 56
- Mass = 137.3 g mol\(^{-1}\)
- Electron Configuration = [Xe]6s\(^2\)
- Density = 3.51 g cm\(^{-3}\)

### Reactivity

Like the lighter members of its family, barium reacts vigorously with water to produce hydrogen gas and so is commonly stored in oil.

### Abundance and Extraction

The metal does not occur free in nature but chiefly as the sulfate and carbonate. The sulfate is used in X-ray diagnostics as a contrast medium (i.e., in soft tissue like the digestive tract).

### Barium Isotopes

There are seven stable isotopes of naturally occurring barium: \(^{130}\text{Ba}\), \(^{132}\text{Ba}\), \(^{134}\text{Ba}\), \(^{135}\text{Ba}\), \(^{136}\text{Ba}\), \(^{137}\text{Ba}\), and \(^{138}\text{Ba}\). In total, twenty-two isotopes are known to exist, but a majority of them are highly radioactive and have relatively short half-lives.

### Barium Compounds

Barium sulfate (\(\text{BaSO}_4\)), or barite, is the most common mineral abundant in barium. This mineral has a density of 4.5 g/cm\(^3\) and is extremely insoluble in water. Uses of barium sulfate include being a radiocontrast agent for X-ray imaging of the digestive system. Barium carbonate (\(\text{BaCO}_3\)) is also commonly used as a rat poison.

Barium compounds (which are toxic) are also useful in pyrotechnic devices where they impart a characteristic green color.

### Contributors

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