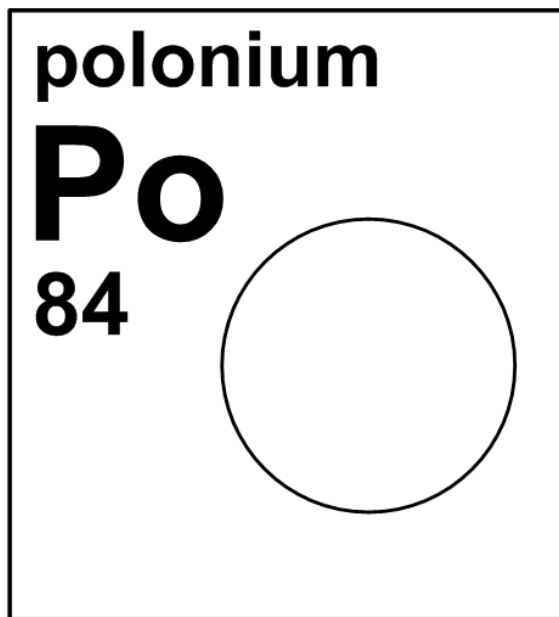





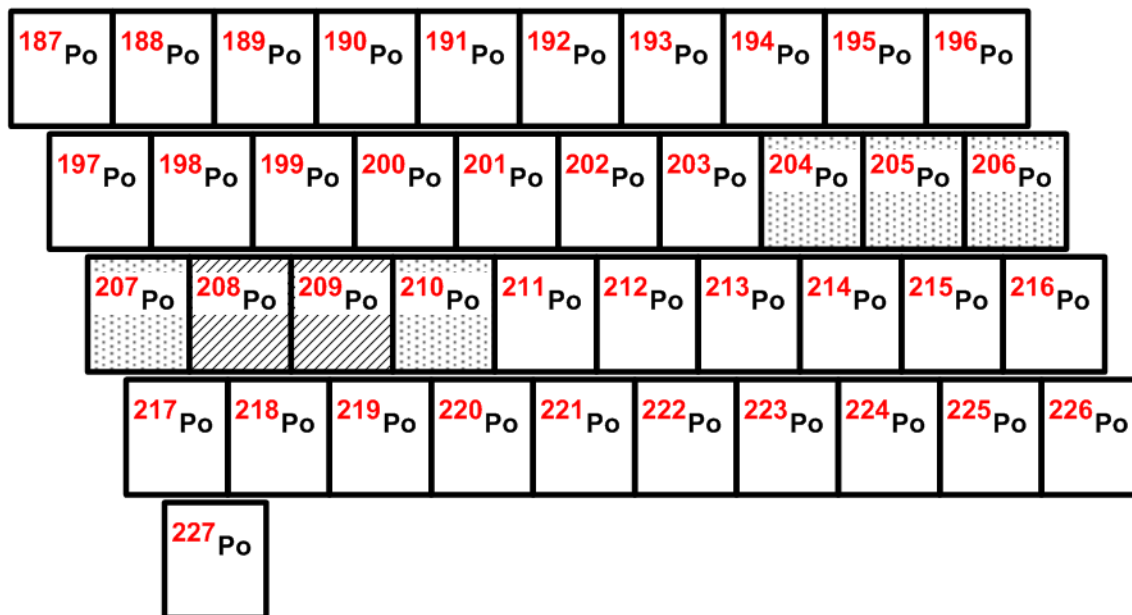
4.84 polonium



Stable isotope	Relative atomic mass	Mole fraction
(none)		

Half-life of radioactive isotope

Less than 1 hour	
Between 1 hour and 1 year	
Greater than 1 year	



4.84.1 Polonium isotopes in industry

^{210}Po (with a **half-life** of 138 days) is used as static eliminator to remove static electricity in machinery. This is useful in machinery that produces electricity easily, for example, via rolling paper, manufacturing sheet plastics, and spinning synthetic fibers, which all readily produce static [72, 560]. ^{210}Po can also make use of its static eliminating properties when used in brushes that function to clean camera lenses and photographic films (Figure 4.84.1) [72]. ^{210}Po has been

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used to manufacture atomic weapons. When combined with beryllium, polonium can act as a **neutron**-producing initiator. However, because of its short half-life, ^{210}Po is no longer used in this manner [72].



Fig. 4.84.1: Staticmaster™ Alpha **Ionizing** Brushes for cleaning optical surfaces and photographic films have a soft, non-abrasive brush and a ^{210}Po cartridge. (Photo Source: Reston Stable Isotope Laboratory of the U.S. Geological Survey) [561].