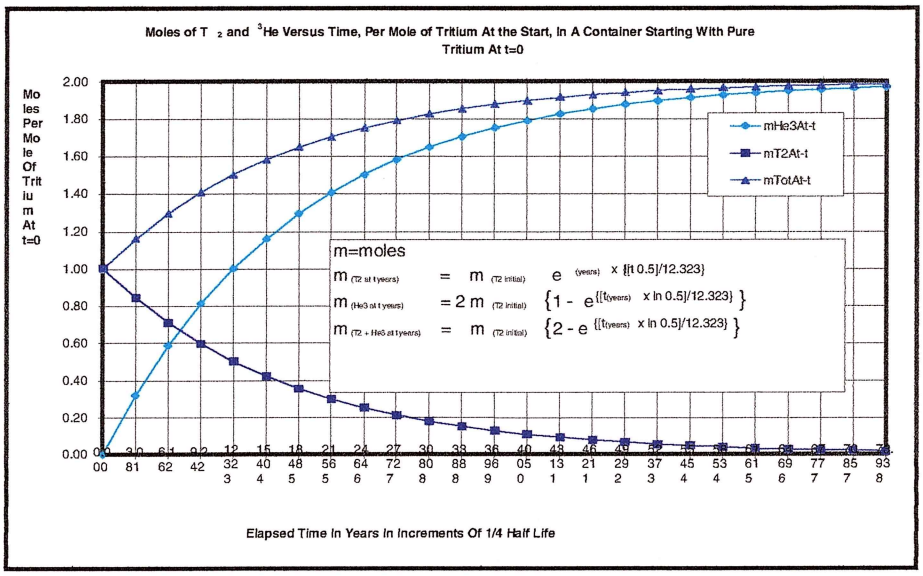

FIGURE 2-1. Rate of tritium decay of one mole of tritium

2.2 Physical Properties

Tritium gas is colorless, odorless, tasteless, and radioactive. It decays to ^{3}He, a monatomic gas, by emitting an electron and neutrino from the nucleus. Tritium has a high coefficient of diffusion. It readily diffuses through porous substances such as rubber and can also diffuse through metals.

As tritium decays in ca container of constant volume at a constant temperature, the tritium partial pressure decreases and the partial pressure of ^{3}He increases. The pressure in the container approaches twice that of the original container pressure. The rate of pressure change over time is shown in Figure 2-2.

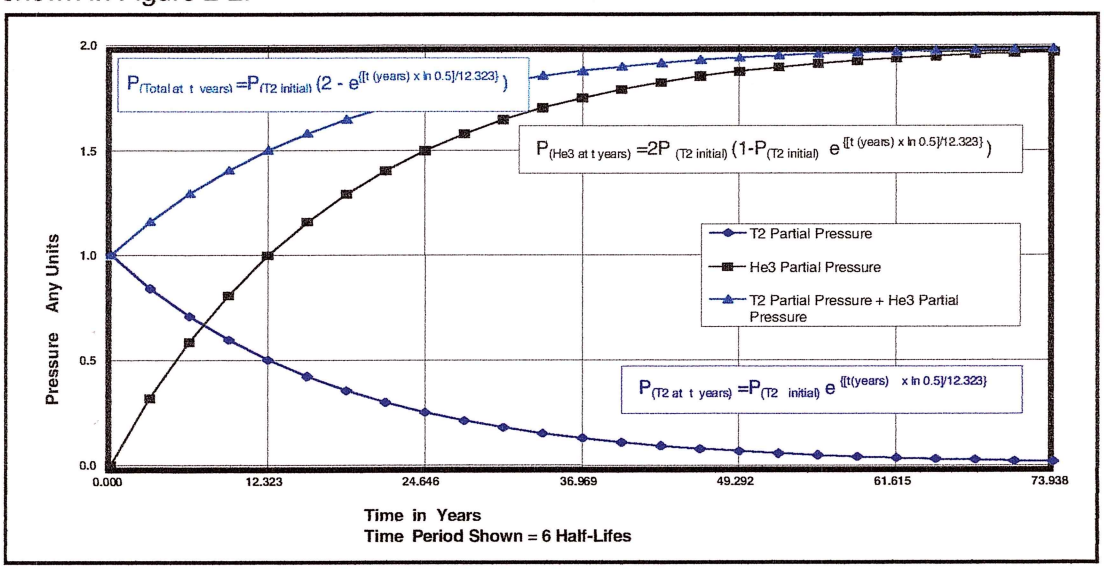

FIGURE 2-2. Pressure versus time in a container of tritium