

In 3 dimensions, the volume inside a sphere (that is, the volume of a ball) is derived to be

$$V = \frac{4}{3}\pi r^3$$

where r is the radius of the sphere and π is the constant pi. But in your case it is even easier, because it is possible to find volume from mass and density:

Density of a material is its mass per unit volume. The symbol most often used for density is ρ (the lower case Greek letter rho). Mathematically, density is defined as mass divided by volume:

$$\rho = \frac{m}{V},$$

From this equation $V = m / \rho$

$$V = 1.234 \text{ g} / 3.1569 \text{ g/cm}^3 = 0,391 \text{ cm}^3 \text{ or } \mathbf{0,000391 \text{ L}}$$