

## How to Convert Specific Gravity to Pounds per Gallon

Specific gravity is defined as the relationship of the density of the test substance to water. It is stated as a ratio. It is sometimes referred to as relative density. According to Rensselaer Polytechnic Institute, the specific gravity of water is 1.00. An object with a specific gravity above 1.00 is denser than water. A specific gravity below 1.00 means the object is less dense than water. Scientifically the water used in the testing substances for specific gravity is just above the point of freezing at 4 degrees Celsius.

**Difficulty:** Easy

### Things You'll Need:

- Material Data Safety Sheet
- Calculator

1.Note the specific gravity of the substance. It is included in the Material Data Safety Sheet of commercially manufactured products. It is usually stated as a number although it actually represents a ratio. A specific gravity of 1.31 means the substance is 1.31 times as heavy as an equal quantity of water at 4 degrees Celsius.

2.Multiply the specific gravity times the weight of a gallon of water. A gallon of water weighs 8.33 pounds according to the U.S. Geological Service. A substance with a specific gravity of 1.2, for example, weighs 9.996 pounds per gallon (1.2 times 8.33 equals 9.996.)

3.Multiply the specific gravity times the weight of a liter water for the metric equivalent. A liter of water weighs 2.2 pounds. The weight of the substance with a specific gravity of 1.2 weighs 2.64 pounds per liter (1.2 times 2.2 equals 2.64.) Under the metric system 1 liter of water weighs 1 kilogram, making the specific gravity of a substance equal to its weight in kilograms per liter.