



Rubidium

Introduction to Rubidium



The 16th most abundant element in earth's crust is Rubidium. Located in the periodic table with an atomic number of 37 and the symbol Rb is this fascinating element! It can be found in North America, South Africa, Russia, and Canada. To find out more about this exciting element, read on!

Structure

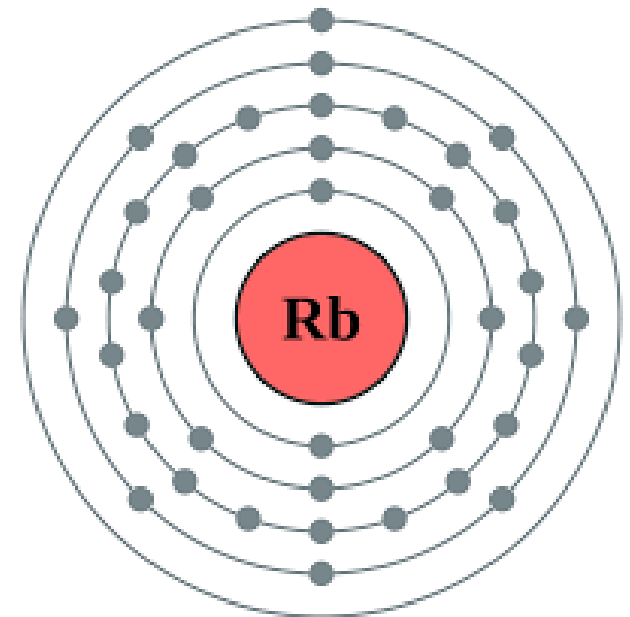
Rubidium has an atomic number of 37 with an atomic mass of 85.4678. In rubidium there are 37 protons, 48, neutrons, and 37 electrons. The electrons orbit around the nucleus in five different electron shells. the number of electrons in each shell go in this order 2, 8,18,8,1. Since it is an alkali metal it has one valence electron making it very reactive.

Chemical properties

Since Rubidium is an alkali metal, it very quickly oxidizes in contact with air and explodes when in contact with water.

Physical properties and States of matter

- The density 1.53 g.cm³ at 20 degrees Celsius
- Solid at 39 or less degrees Celsius
- Liquid between 39-696 degrees Celsius
- Gas at 696 or above degrees Celsius
- it is a soft silvery metal like potassium and sodium.

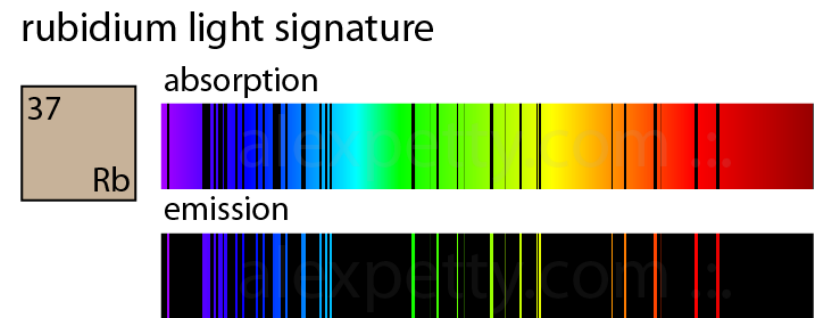


Discovery

- Discovered by Robert Bunsen and Gustav Kirchhoff in Heidelberg, Germany in the year of 1861.
- The name, Rubidium, means deep red because of the deep red lines emitted in the spectrum.
- Rubidium was discovered in the mineral lepidolite through spectroscopy.
 - Spectroscopy is the branch of science concerned with the investigation and measurement of spectra produced when matter interacts with or emits electromagnetic radiation.



Lepidolite-
mineral with
Rubidium



Compounds and Uses

Some of the common rubidium compounds are:

- rubidium chloride (RbCl)
- rubidium monoxide (Rb_2O)
- rubidium copper sulfate Rb_2SO_4
- compound of rubidium, silver and iodine, RbAg_4I_5

Uses of Rubidium

- Found in atomic clocks
- In getters in vacuum tubes
- There are not many more uses of rubidium because it is so reactive.

Fun facts

- Rubidium is a liquid metal on a hot day
- It has 11 isotopes
- RbAg_4I_5 has interesting electrical properties that could be used in thin film batteries
- Moderately toxic by ingestion

