# Radium

88
Ra
[226.03]



## Chemical reactions of the elements

### Reaction of radium with air

Radium is a silvery white metal. The surface of radium metal is covered with a thin layer of oxide that helps protect the metal from attack by air, but to a lesser extent than the corresponding layer in magnesium. I'm not sure if this reactiuon has been done, but once ignited, radium metal is likely to burn in air to give a mixture of white radium oxide, RaO, and radium nitride, $Ra_3N_2$. The superoxide $RaO_2$ is also likely to form in this reaction. Radium, four places below magnesium in the periodic table is more reactive with air than magnesium.

$2Ra(s) + O_2(g) \longrightarrow 2RaO(s)$

$Ra(s) + O_2(g) \longrightarrow RaO_2(s)$

$3Ra(s) + N_2(g) \longrightarrow Ra_3N_2(s)$

### Reaction of radium with water

Radium probably reacts very readily with water to form radium hydroxide, $Ba(OH)_2$ and hydrogen gas ($H_2$). The reaction is expected to be quicker than that of barium (immediately above radium in the periodic table).

$Ra(s) + 2H_2O(g) \longrightarrow Ra(OH)_2(aq) + H_2(g)$

### Reaction of radium with the halogens

I'm not sure that radium has been reacted directly with the halogens, although certainly two of the expected products radium(II) chloride and radium(II) bromide are known.

### Reaction of radium with acids

### Reaction of radium with bases

# Radon

86
Rn
[222.02]

Switch to... Go!

## Chemical reactions of the elements

### Reaction of radon with air

Radon gas does not react with air.

### Reaction of radon with water

Radon does not react with water. It does, however, dissolve slightly to the extent of about 230 $cm^3$ $kg^{-1}$ at 20°C (293 K)

### Reaction of radon with the halogens

Radon gas does not react with halogens other than fluorine. It seems that radon gas reacts with fluorine to form the difluoride radon(II) fluoride, $RnF_2$, but the compound is not properly characterized.

### Reaction of radon with acids

Radon gas does not react with acids.

### Reaction of radon with bases

Radon gas does not react with bases.