As tetravalent transition metals, all three elements form various inorganic compounds, generally in the oxidation state of +4. For the first three metals, it has been shown that they are resistant to concentrated alkalis, but halogens react with them to form tetrahalides. At higher temperatures, all three metals react with oxygen, nitrogen, carbon, boron, sulfur, and silicon. Because of the lanthanide contraction of the elements in the fifth period, zirconium and hafnium have nearly identical ionic radii. The ionic radius of Zr4+ is 79 picometers and that of Hf4+ is 78 pm.