

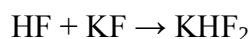
Read the article and fill the gaps with appropriate words.

FLUORINE

Adapted from <http://en.wikipedia.org/wiki/Fluorine>

obtained oxidized varies based forms entails required
steel cell stored melts electrolysed layer conductivity
improvements

Industrial production of fluorine in the middle temperature process **1.** the electrolysis of a solution of potassium bifluoride in hydrogen fluoride. Hydrogen fluoride **2.** for the electrolysis is mainly **3.** by treatment of fluorite with sulphuric acid. Several thousand tonnes of fluorine are produced annually. Potassium bifluoride **4.** spontaneously from potassium fluoride and the hydrogen fluoride:



The mixture with the approximate composition $\text{KF} \cdot 2\text{HF}$ **5.** at 70°C and is **6.** in the temperature range between 70 and 130°C . KHF_2 increases the electrical **7.** of the solution and provides the anion that is **8.** at the anode, while hydrogen forms at the cathode. These electrolytes and method are **9.** on the pioneering studies by Moissan. Since then **10.** have been made in electrodes and containment: while Moissan used platinum group metal electrodes and carved fluorite containers, the modern process uses the **11.** itself as cathode, while blocks of carbon are used as anode (the Söderberg carbon electrodes are similar to those used in the electrolysis of aluminium). The voltage for the electrolysis **12.** between 8 and 12 Volts. If the fluorine gas is cleaned of hydrogen fluoride and oxygen impurities, it may be **13.** in steel cylinders, where the inside surface becomes coated (passivated) with a metal fluoride **14.** that resists further attack.