

ABSTRACT

There is provided a method for producing high-purity bromine pentafluoride while leaving a less amount of an
5 unreacted fluorine gas. The method for producing bromine pentafluoride includes a reaction step of feeding a bromine-containing compound, which is at least one of a bromine gas and bromine trifluoride, and a fluorine gas to a reactor to give a (fluorine atom):(bromine atom) molar ratio,
10 that is, F/Br of 3.0 or more and 4.7 or less and reacting the bromine-containing compound and the fluorine gas to each other to obtain a reaction mixture containing bromine pentafluoride and bromine trifluoride; and a separation step of separating bromine pentafluoride and bromine trifluoride
15 in the reaction mixture from each other.

Figure 1