

Salts

product of neutralization reaction

strong **base**

NaOH

NaF (s)

weak **acid**

HF $K_a = 1.5 \times 10^{-11}$

very weak conjugate acid

Na⁺

strong conjugate **base**

F⁻

Na⁺ + H₂O → no reaction

F⁻ + H₂O ⇌ HF + OH⁻

hydrolysis

$$\frac{[\text{HF}][\text{OH}^-]}{[\text{F}^-]} = K_b = 6.7 \times 10^{-4}$$

“breaking water”

basic solution

$$K_a \times K_b = K_w$$