

Iron(II)

| Reaction | Baes and Mesmer, 1976 | Nordstrom et al., 1990 | Hummel et al., 2002 | Lemire et al., 2013 | Brown and Ekberg, 2016 |
|---|-----------------------|------------------------|---------------------|---------------------|------------------------|
| $\text{Fe}^{2+} + \text{H}_2\text{O} \rightleftharpoons \text{FeOH}^+ + \text{H}^+$ | -9.3 ± 0.5 | -9.5 | -9.5 | -9.1 ± 0.4 | -9.43 ± 0.10 |
| $\text{Fe}^{2+} + 2 \text{H}_2\text{O} \rightleftharpoons \text{Fe(OH)}_2 + 2 \text{H}^+$ | -20.5 ± 1.0 | | | | -20.52 ± 0.08 |
| $\text{Fe}^{2+} + 3 \text{H}_2\text{O} \rightleftharpoons \text{Fe(OH)}_3^- + 3 \text{H}^+$ | -29.4 ± 1.2 | | | | -32.68 ± 0.15 |
| $\text{Fe(OH)}_2(\text{s}) + 2 \text{H}^+ \rightleftharpoons \text{Fe}^{2+} + 2 \text{H}_2\text{O}$ | | | | | 12.27 ± 0.88 |
| $\frac{1}{3}\text{Fe}_3\text{O}_4(\text{s}) + 2 \text{H}^+ + \frac{1}{3}\text{H}_2 \rightleftharpoons \text{Fe}^{2+} + \frac{4}{3}\text{H}_2\text{O}$ | | | | 12.5 | 11.77 ± 0.22 |

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