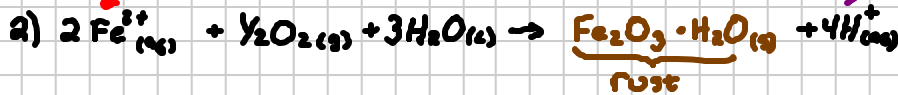
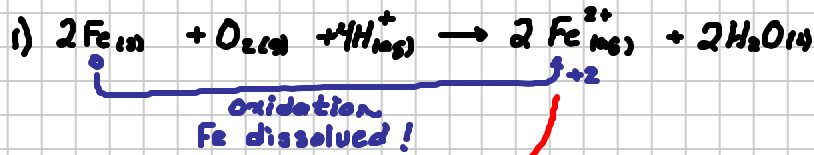


Lecture 23.3 Redox. Corrosion

Note Title

11/18/2011

.. Conversion of iron into "rust":

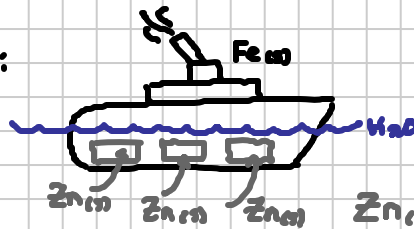


... Aluminum Oxide Al₂O₃(s)



Al₂O₃(s) ... Stays in place
... protective layer
... limit oxidation Al

Rust Prevention:
... painting.
... Sacrificial
anode (etc).



reduced	$\rightarrow \text{Fe}^{2+}(aq) + 2e^-$	$\rightarrow \text{Fe}(s)$	-0.45
	$\text{Cr}^{3+}(aq) + e^-$	$\rightarrow \text{Cr}^{2+}(aq)$	-0.50
	$\text{Cr}^{3+}(aq) + 3e^-$	$\rightarrow \text{Cr}(s)$	-0.73
	$\rightarrow \text{Zn}^{2+}(aq) + 2e^-$	$\rightarrow \text{Zn}(s)$	-0.76
oxidized	$2\text{H}_2\text{O}(l) + 2e^-$	$\rightarrow \text{H}_2(g) + 2\text{OH}^-(aq)$	-0.83
	$\text{Mn}^{2+}(aq) + 2e^-$	$\rightarrow \text{Mn}(s)$	-1.18
	$\text{Al}^{3+}(aq) + 3e^-$	$\rightarrow \text{Al}(s)$	-1.66
	$\text{Mg}^{2+}(aq) + 2e^-$	$\rightarrow \text{Mg}(s)$	-2.37