Kust

 $2Fe_{(s)} + \frac{3}{2}O_{2(g)} + 3H_2O_{(\ell)} \rightarrow Fe_2O_3 \cdot 3H_2O_{(\ell)}$ iron oxide (rust)



Rusting stairs at UCA's Caldwell Apartments in downtown Conway, AR

J. Gambill, 2011

Iron atoms

air and water

Iron ions



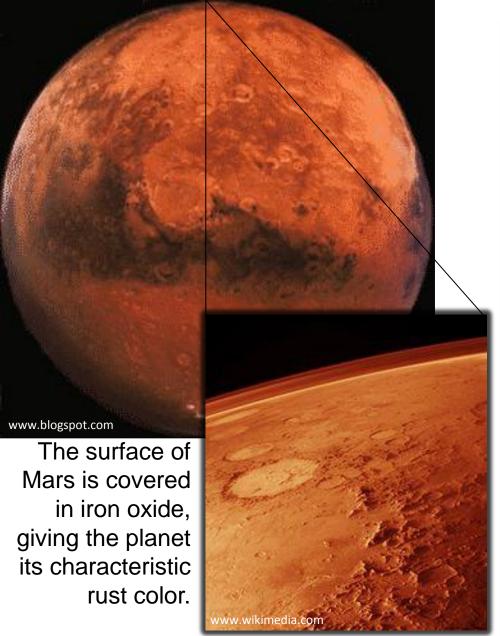


Pure iron is a grayish, silver metal. Oxidation by air and water produces a deep orange colored surface, rust, made up of iron oxide compounds.





Iron Oxides are used as naturally occurring color additives in mineral cosmetics and in jeweler's rouge, used for polishing soft, precious metals.



Due to frequent wind storms, iron oxide dust is incorporated into the atmosphere and gives Mars a reddish glow.

To prevent rust, the iron surface must be coated with something like Rust-Oleum to hinder interactions with air and water.



Pure iron metal can be



restored by removing the outer rust layer with acidic chemicals such as hydrochloric acid in Rust Dissolver.