Rust is a type of corrosion that can be very destructive or unattractive. This process begins when iron reacts with oxygen in the presence of water, salt water, acids, or other harsh chemicals. A ferrous metal is one that contains iron and only iron can rust. Common ferrous metals include carbon steel (1018, 12L14), alloy steel (4130), and stainless steel (304, 316).

Water is enemy number one when it comes to rust, because it’s the oxygen in water molecules that combines with iron to form iron oxide. If the object is located in a humid indoors environment, such as a garage or basement, install a dehumidifier. Any type of mud or dirt adhered to the surface can hold water, so it’s important to keep metals clean.

Scratches or cracks in the metal expose more metal and hold water, allowing it to remain in contact with the iron.

Stainless steel alloys contain iron, but it resists rust because it also contains a high percentage of chromium which is even more reactive than iron. The chromium in the alloy oxidizes quickly to form a protective layer of chromium oxide on the metal surface which prevents oxygen from reaching the underlying steel.

Because rust spreads quickly, it’s important to scrape it off as soon as it appears. Then, scrub with warm water and soap and apply a metal conditioner or other protective coating to prevent further oxidation. If necessary, apply a new coat of paint to the area.