

# Evapo-Rust

## By Midbrook

**Evapo-Rust** is a chemical solution for cleaning rust from steel parts. It is an environmentally safe product, with the ability to remove rust in a relatively short time frame without scrubbing. Through immersion in the solution, parts are cleaned from their rust and able to function properly once again.

**Evapo-Rust** is a water-based product. Through the process of selective chelation, it forms a bond with iron and removes the iron from the iron oxide on the part. When this happens, sulfur bearing organic molecules removes the iron from the chelator and the process begins again. Using **Evapo-Rust** is an uncomplicated and effective process. It can be added to your cleaning process or used in spot situations where only certain parts need to be cleaned.

## Using Evapo-Rust

To begin, immerse the rusted part completely into a non-diluted solution of **Evapo-Rust**. For reference when creating the bath, approximately 300 pounds of moderately rusted steel can be cleaned using only one gallon of **Evapo-Rust**. If the part is lightly rusted, it only needs to remain immersed for 10 minutes. For a very heavily rusted object, it may need to soak overnight. After the immersion time is complete,

remove the part and rinse it with water. Re-immerses the part if any rust remains. If no rust remains, dip the part back into the solution to prevent flash rusting and allow it to air dry. The process will protect parts from rust for two weeks.

When using the product, remember that **Evapo-Rust** works at room temperature, but works more quickly with heated water and even quicker with the additional mechanical action provided by ultrasonic energy. Parts should be free of dirt, oil, and grease before de-rusting, as this will prolong the bath life.

### **Benefits of Evapo-Rust**

There are many advantages to using **Evapo-Rust**. It comes ready to use out of the container, requiring no dilution. One gallon can remove rust from 300 pounds of steel, making it highly efficient. For example, one hundred gallons can be loaded into a tank and then de-rust 30,000, sometimes even more, pounds of steel. Unlike using acid to remove rust, there is no hydrogen embrittlement in the process.

It is environmentally safe, non-toxic, non-corrosive, and safe on the skin. **Evapo-Rust** produces no fumes, no bad odors, and no VOCs. It is a biodegradable solution containing no acids, bases, or solvents in the ingredients. When the product is expended, it can be disposed of safely into the sewer depending on local regulations.

**Evapo-Rust** can also be used without worry in regards to materials. It does not damage un-rusted steel and is safe to use with other metals. It also does not affect plastic, PVC, viton or most paints. Glass and clothing are also not harmed by contact with the product. Therefore, it can be used on the majority of rusted steel parts without fear of causing damage to the part in the process.

## Helpful Reminders and Tips

**Evapo-Rust** does not require parts to be completely cleaned before use. However, removing heavy contamination will prolong the bath life and also allow the process to work faster.

Bluing and other oxides will be removed through use, however anodizing will not. Other materials, such as paint, will not be removed unless they contain oxides.

Occasionally there will be a black film left on the part after use. This is carbon from the steel, and it can be removed simply through wiping a cloth on the part.

**Evapo-Rust** is simple to use, and highly effective. It makes a good addition to any plant where parts may become rusted. It is available in a wide range of sizes, from quarts to 275-gallon totes.