

Butrol® 331

Corrosion Inhibitor for Flash Rust Control

Water based-coatings are corrosive to iron unless they are properly formulated with a corrosion inhibitor. Because of their corrosivity, many paint manufacturers package such coatings in either plastic or lined metal containers. Both types of containers are expensive and often unavailable, making the use of metal cans necessary. When unlined metal cans are used to package water-based coatings, Butrol 331 is the product of choice for in-can corrosion resistance.

Another corrosion problem associated with water-based coatings is flash rusting. Flash rusting occurs under certain conditions when water-based coatings are applied directly onto ferrous metal substrates. This phenomenon typically occurs when there is high humidity and slow drying. As the film dries, water-soluble corrosion products migrate into the film and become visible as rust-colored spots. Early rusting is similar to flash rusting, but it occurs after the paint film has already dried to touch. Butrol 331 has demonstrated effectiveness in controlling both flash and early rusting.

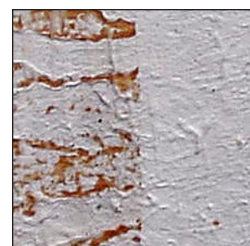
Methods of Application

The flash or early rust associated with the application of water-based coatings on steel surfaces is well known.

Butrol 331 is a water-dispersible corrosion inhibitor that controls both flash rusting and early rusting. The product contains both organic and inorganic anticorrosive chemicals as well as dispersants to assure uniform distribution throughout the paint film. Butrol 331 is compatible with most water-reducible systems including latex emulsion paints. Butrol 331 may be added to the paint during manufacture or post added. The exact amount of Butrol 331 needed to control this type of corrosion will depend on the vehicle systems but should be effective at some concentrations between 0.1% to 1.0% based on total formulation weight.



Negative control



Butrol 331

Butrol 331 at 1.0% in a white acrylic emulsion, placed in humidity cabinet for 24 hours. The rusty areas are single coated; the clean areas are double coated.

Packaging and Handling

Butrol 331 is a water-soluble liquid packed in non-returnable drums. The container should be kept closed when not in use. Butrol 331 will solidify if exposed to cold temperatures (the freezing point is 4.0°F), but once the product is thawed, it returns to a stable liquid. The product can go through several freeze-thaw cycles without being harmed.

Improper handling of this product can be injurious to workers. **Observe all safety precautions shown on the label and in the Material Safety Data Sheet.**

Typical product characteristics

Density at 25°C (77°F)	1.28–1.32 g/cm ³
Weight per U.S. gallon	10.7–11.0 lb
Volume per pound	344.09–353.75 mL
Volume per kilogram	758.60–779.79 mL
Freezing point	4.0°F
pH	11–12

Please see important information on reverse side.