



Butrol[®] 331

Corrosion inhibitor for flash rust control

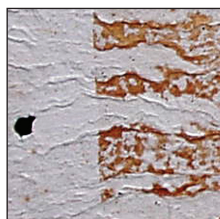
Water based-coatings are corrosive to iron unless they are properly formulated with a corrosion inhibitor. Because of their corrosivity, many paint manufacturers package such coatings in either plastic or lined metal containers. Both types of containers are expensive and often unavailable, making the 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 that Butrol 331 addresses is flash rusting. Flash rusting occurs under certain conditions when water-based coatings are applied directly onto ferrous and non-ferrous metal substrates such as steel, copper, or brass. 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.

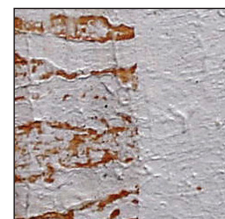
Methods of application

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



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.

between 0.1% to 1.0% based on total formulation weight.

Packaging and handling

Butrol 331 is a water-soluble liquid packed in drums. Keep container closed when not in use. Butrol 331 will solidify if exposed to extremely cold temperatures (the freezing point is 4.0°F), but once the product is thawed, it returns to a stable liquid. Butrol 331 can go through several freeze-thaw cycles without being harmed. Refer to the Safety Data Sheet for suitable materials of construction for handling and storing this product.

When formulating with this product, the finished formula should be tested for stability and compatibility with the intended shipping container. Improper handling of this product can result in injury.

Observe all precautions shown on the Product Label and in the Safety Data Sheet.

Typical product characteristics	
Density at 25°C.....	1.28 – 1.34 g/cm ³
Weight per US gallon	10.7 – 11.2 lb
Volume per pound	337.98 – 353.75 mL
Volume per kilogram	745.16 – 780.48 mL
pH	11 – 12
Freezing point	0.0°F

Seller warrants that this product conforms to its chemical description and is reasonably fit for the purpose referred to in the directions for use when used in accordance with the directions under normal conditions. Buyer assumes the risk of any use contrary to such directions. Seller makes no other warranty or representation of any kind, express or implied, concerning the product, including **NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS OF THE GOODS FOR ANY OTHER PARTICULAR PURPOSE**. No such warranties shall be implied by law and no agent of seller is authorized to alter this warranty in any way except in writing with a specific reference to this warranty. The exclusive remedy against seller shall be a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon breach of warranty or tort. B250W (05/20)