

ABCO RP-92 Rust Preventative

ABCO Products of Sacramento

Primary Usage

Abco RP-92 is a carefully selected blend of inhibitors which included the barium soap of an oxygenated hydrocarbon. ABCO RP-92 contains approximately 4% barium. It is an outstanding effective water displacing, non-staining rust preventative. The protective film of ABCO RP-92 left on the metal after evaporation of the solvent is ultra thin, non-staining and highly protective. It can also be used in mineral oil solutions to provide water displacement, though the resulting oil film left on the metal is slightly less protective than the solvent deposited film.

Economical products conforming to Types II and III of MIL-C-0081309 can be formulated with ABCO RP-92.

Application

A. Industrial Rust Preventatives

4-12% (by wt.)	ABCO RP-92 (Note 1)
0-3% (by wt.)	Ethylene Glycol Monobutyl Ether (Note 2)
Balance	Mineral Spirits or Stoddard Solvent

*Note 1- Concentration depends on protection required. See performance data.

**Note 2- No coupling agent is required for simple water displacement at the higher percentages of ABCO RP-92. Approximately 2-3% coupling agent will enhance the water displacing properties at low concentration of ABCO RP-92.

B. MIL-C-81309

Type II

50% ABCO RP-92
50% Mineral Spirits
(60°C (140°F) Flash)

Type III

20% ABCO RP-92
80% Mineral Spirits
(60°C (140°F) Flash)

Chemical Composition

(Not Specifications)

Acid Number (ASTM D-974).....3-5
Saponification Number (ASTM D-94).....61-69
Specific Gravity @ 24°C (75°F).....0.95
Weight per Gallon Kgs (lbs).....3.6 (7.9)
Flash Point (ASTM D-92) (minimum).....121°C (250° F)
Melting Point (ASTM D-127).....35°C (95° F)

Performance Data

A. Non- Emulsibility

Solvent solutions of ABCO RP-92 can be agitated vigorously with strong or dilute alkali solutions and all the alkali solution will separate quickly and completely.

B. Water Displacement and “Depletion” Test

The water displacing properties of ABCO RP-92 solutions were determined according to the procedures in grade 3 of MIL-C-16173E. A water wet panel is immersed in the test solution momentarily, drained, and exposed in a static humidity cabinet. (See performance table for results.) Five successive “extractions” of the solvent solutions of ABCO RP-92 with 1 % NaOH were carried out. After separation of the caustic solution, all performance tests were run on the “extracted” solution, with no reduction of any of its desirable properties.

C. Non-Stain Test

The non-staining properties of films of ABCO RP-92 were evaluated according to MIL-C-22235. Panels coated with the test solution and water, are “sandwiched” and stored at 82.2°C (180°F) for 24 hrs. Appearance of a black stain is cause for failure. ABCO RP-92 passes this test and has also proved its non-staining characteristics during extensive industrial usage

D. Protection

Solution % ABCO RP-92 In solvent	Film Thickness		Humidity Cabinet (1) Days Fail	Water Displacement	
	Mils	Microns		Water Storage	Paraffin Dilution
4	0.02	0.51	50	P	P
6	0.03	0.76	55	P	P
8	0.05	1.27	55	P	P
10	0.06	1.52	60+	P	P
12	0.07	1.78	60+	P	P

- (1) Standard ASTM-D-1748 using polished panels at 49°C (120°F) and 100% relative humidity. All results are ± 5 days

Summary

A. Optimum rate of water displacement and water separation is obtained at ABCO RP-92 concentrations of 8% and above.

B. Outstanding protection is obtained from solutions containing as little as 4% ABCO RP-92.

Caution: Avoid inhalation of fumes and skin exposure. Wear protective equipment when handling.