

MOLY-WHITE C-100: NEW CORROSION INHIBITOR (ZINC-FREE) FOR LATEX PRIMERS AND OTHER WATERBORNE COATINGS

Moly-White C-100 incorporates the latest advancements in corrosion inhibition technology from Moly-White Pigments Group. Moly-White C-100 is based on patent pending technology and employs a unique synergistic combination of surface activated corrosion inhibitive agents.

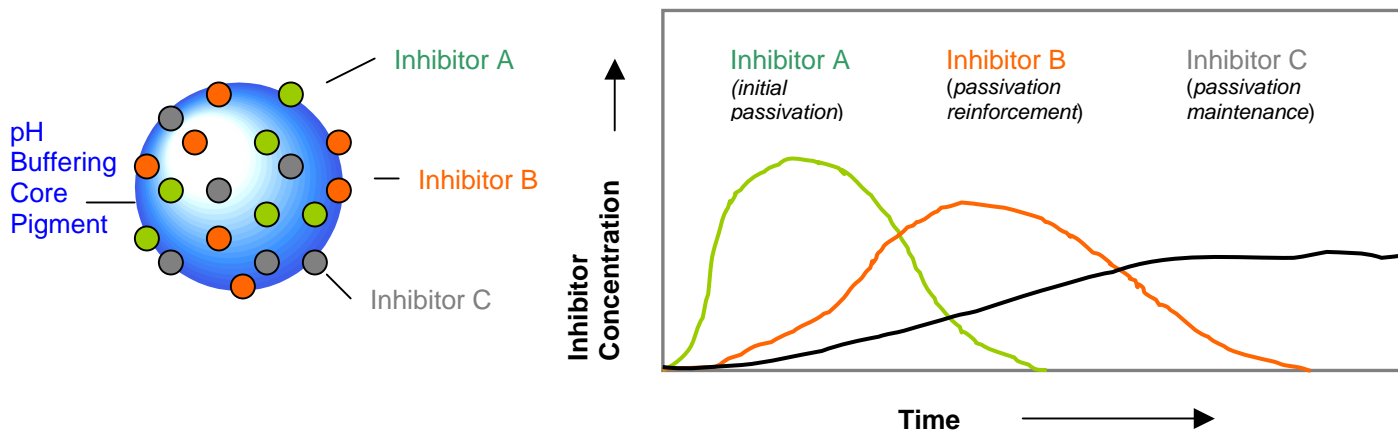
Moly-White C-100 is the result of an extensive, multi-year R&D program specifically targeted towards latex primer applications. Moly-White C-100 is completely nontoxic and, being zinc-free, the product does not require special labeling in Europe.

Latex primers formulated with Moly-White C-100 offer excellent stability and have shown superior performance in accelerated corrosion tests versus formulations based on other inhibitors, including both zinc and non-zinc based products. Moly-White C-100 is also suggested for other waterborne applications, including water-reducible/waterborne alkyds, epoxies, epoxy esters and urethanes.

Table 1 - Key Features of Moly-White C-100

- Excellent Stability and Performance in Latex Primers
- Incorporates Optimized Combination of Synergistic Inhibitive Chemistries
- Complete Protection Through Sequential/Staggered Release of Inhibitors
- Nontoxic/Nonhazardous
- Free of Zinc Compounds – No Special Labeling Requirements in Europe
- Patent Pending Technology

Figure 1 – Schematic Pigment Structure and Inhibitor Release Kinetics



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Table 2 – Aquamac 740 Styrene Acrylic Latex Primer with Moly-White C-100

<u>Material</u>	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>	<u>% (wt)</u>
grind					
Water	70.0	8.40	8.40	8.40	6.5
Surfynol CT-131 (1)	23.4	2.67	2.81	2.67	2.2
Ti-Pure R-706 (2)	104.4	3.05	12.53	3.05	9.7
Ammonia	1.1	0.14	0.13	0.14	0.1
Atomite (3)	183.7	8.13	22.04	8.13	17.1
Moly-White C-100 (4)	50.0	2.07	6.00	2.07	4.7
DrewPlus L-475 (5)	1.1	0.14	0.13	0.14	0.1
HSD 6 Hegman					
Eastman EB (6)	49.2	6.55	5.90	6.55	4.6
letdown					
Aquamac 740 (7)	506.0	58.50	60.72	58.50	47.2
Texanol (6)	9.0	1.14	1.08	1.14	0.8
Dowanol DPnB (8)	14.0	1.83	1.68	1.83	1.3
Surfynol DF-210 (1)	2.4	0.29	0.29	0.29	0.2
Santicizer 160 (9)	12.3	1.32	1.48	1.32	1.1
10% Ammonium Benzoate Solution	30.0	3.60	3.60	3.60	2.8
premix and add					
Acrysol TT-615 (10)	3.0	0.34	0.36	0.34	0.3
Water	<u>14.0</u>	<u>1.68</u>	<u>1.68</u>	<u>1.68</u>	<u>1.3</u>
Total	1073.6	99.85	128.83	99.85	100.0

Typical Paint Properties: **PVC: 33.22%** **Volume Solids: 45.1%** **Weight Solids: 58.2%**
VOC: 150 g/l **Pigment : Binder: 1.41** **pH: 8.4**
Visc.: 80 KU **Density: 10.75 lbs/gal or 1.29 kg/l**

Performance Testing Results

Moly-White C-100 has exhibited excellent corrosion resistance and stability in a variety of latex primer formulations. Favorable results have been obtained versus both zinc-based and zinc-free corrosion inhibitors. The following figures compares the salt-spray performance and accelerated oven stability of the formulation outlined in Table 2 when tested versus the same latex primer system formulated with leading competitive inhibitor products.

Figure 2 – Salt-Spray Resistance of Aquamac 740 Formulations (ASTM B117, Blast Steel, 4 mils DFT)

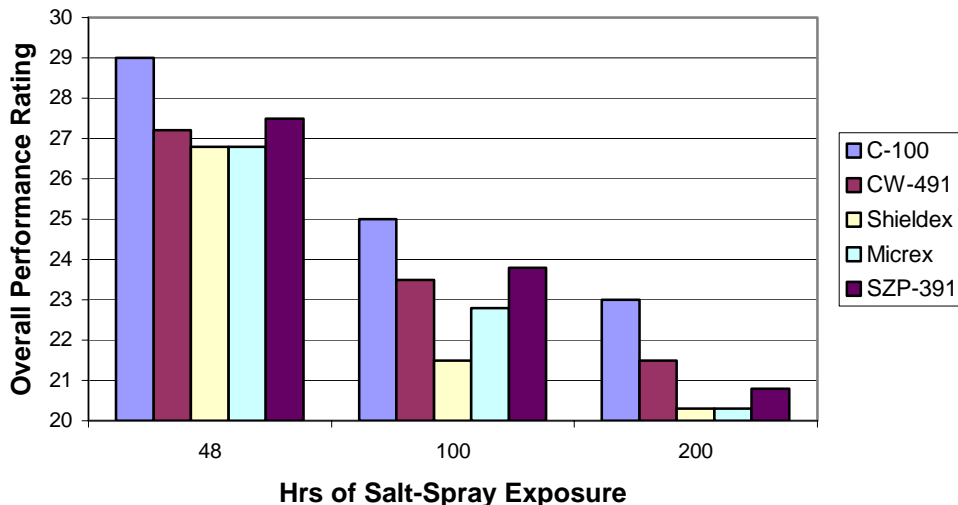
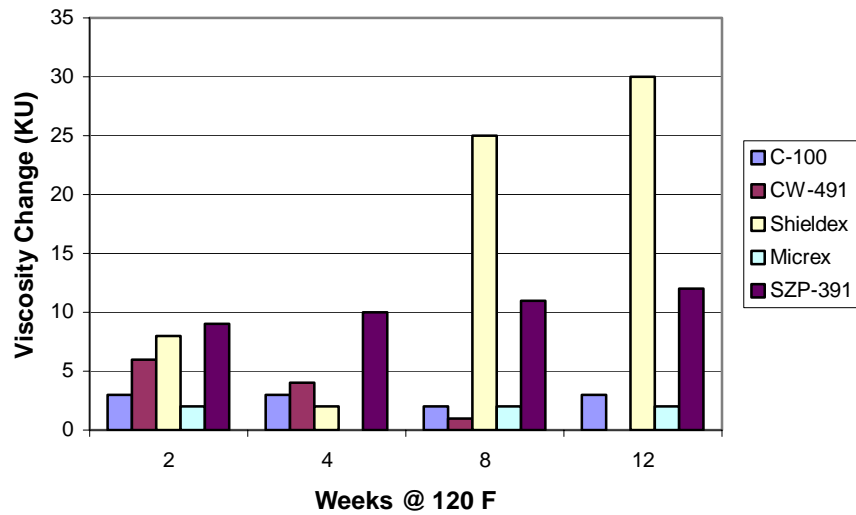


Figure 3 – Viscosity Change for Aquamac 740 Formulations (@120 F)



Expanded Field Exposure Simulation Study

Cyclic corrosion testing based on ASTM D5894 (Cyclic Salt-Spray/UV Exposure Testing) is increasingly recognized as the method offering the best correlation with outdoor exposure. To assess ‘real world’ performance capabilities, Moly-White C-100 and a variety of competitive inhibitors were tested in the Aquamac 740 formulation using the ASTM D5894 method (Figure 4).

Figure 4 – Aquamac 740 Latex Primers Following 1,680 hrs of Cyclic Salt-Spray/UV-Condensation Testing (ASTM D5894, Blast Steel, 4 mils DFT)

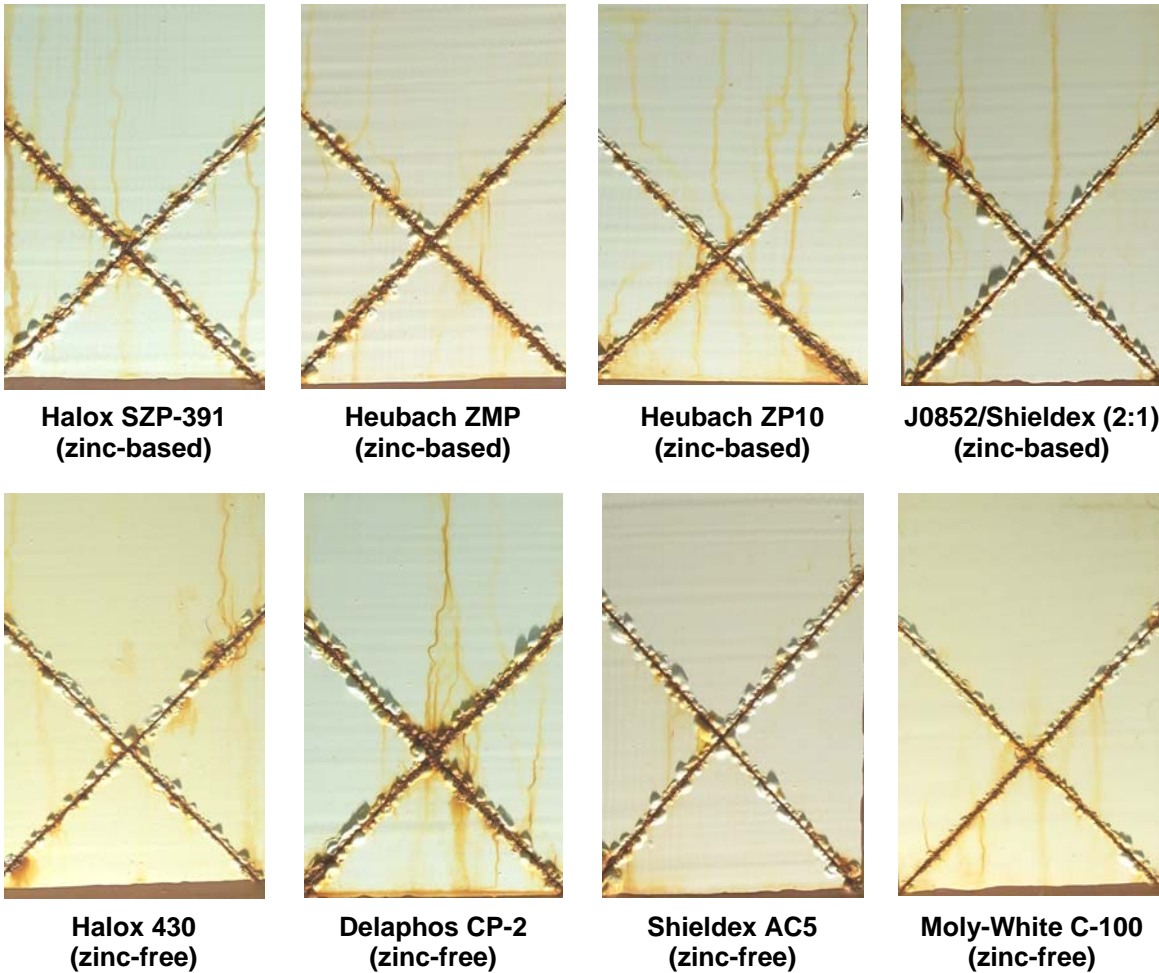


Table 3 – Raw Material Sources

- (1) Air Products
- (2) DuPont
- (3) ECC International
- (4) Moly-White Pigments Group
- (5) Ashland
- (6) Eastman
- (7) Resolution Performance Products
- (8) Dow
- (9) Solutia
- (10) Rohm & Haas



All information is believed reliable; however, all recommendations are made without guarantee, since the conditions of use are beyond our control. All products are sold without warranty, expressed or implied, and on the condition that purchasers shall make their own tests to determine the suitability of such products for their purposes and that the user assumes all risks. Statements contained herein shall not be construed to be a recommendation to infringe any patent.

**NEW
COMMERCIAL
PRODUCT**

MOLY-WHITE® C-100

**PATENT
PENDING
TECHNOLOGY**

Nontoxic *Zinc-Free* Corrosion Inhibitor for Protective Coatings

TECHNICAL DATA SHEET

Moly-White C-100 is a zinc-free corrosion inhibitor specifically designed for latex emulsion primers and other waterborne systems. Moly-White C-100 contains a synergistic, proprietary combination of three active inhibitors precipitated onto a performance enhancing mineral substrate. Due to varying solubility characteristics, Moly-White C-100 offers staggered inhibitor release for effective protection under short, medium and long-term exposure conditions. Additionally, Moly-White C-100 exhibits excellent package stability in latex formulations.

Moly-White C-100 is based on patent pending technology, developed through an extensive, multi-year R&D program.

Recommended Use Levels: 3 – 10% (by total formulation weight).

MOLY-WHITE® C-100 (patent pending)

Typical Properties

Composition:	Proprietary, Nontoxic, Free of Zinc Compounds
Appearance:	Fine White Powder
Specific Gravity:	2.9
Mean Particle Size:	5.0 microns
Particle Shape:	Nodular
pH:	9.1
Oil Absorption:	37 g/100g
Moisture Content:	0.5%
Specific Resistance:	2,000 ohms
325 Mesh Residue:	0.004%



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