

# Eastman ADVANTEX™

neutralizing amine additive

## Create more efficient formulations with Advantex™

Eastman Advantex multifunctional neutralizing amine enables a variety of benefits to architectural coatings, including superb pigment dispersion, excellent emulsion stability, and outstanding syneresis control.

Internal tests show that formulating with Advantex allows for the development of lower odor, lower-VOC paints that can contain up to 75% less propylene glycol, 50% less surfactant, 40% less de-foamer and up to half as much dispersant than a comparable formulation with ammonia.

**By formulating with Advantex instead of ammonia, you may see significant cost savings. Internal testing shows that choosing Advantex over ammonia may:**

- Reduce antifreeze by up to 70%
- Reduce surfactant usage by up to 50%
- Reduce defoamer use by 50%
- Reduce pigment and / or dispersant usage

### Formulation comparison using Advantex and ammonia

Table 1								
Quantities in pounds /100 gallons	#1 Advantex (Control)	#2 Advantex (PG level halved)	#3 Advantex (No PG)	#4 Ammonia (Control)	#5 Ammonia (PG halved)	#6 Ammonia (no PG)	#7 Advantex (50% less dispersant, 50% less surfactant, 50% less defoamer)	#8 Advantex (50% less dispersant, 50% less surfactant, 50% less defoamer, 50% less PG compared to Advantex control)
Water	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Tamol 731A	7.5	7.5	7.5	7.5	7.5	7.5	3.8	3.8
BYK 348	1.0	1.0	1.0	1.0	1.0	1.0	0.5	0.5
Tego Foamex 810	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Kathon LX 1.5%	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Propylene glycol	12.9	6.5	0	30.1	15.1	0	12.9	6.5
Tioxide TR 93	225.0	225.0	225.0	225.0	225.0	225.0	225.0	225.0
<b>Grind</b>								
Water	101.9	101.9	101.9	101.9	101.9	101.9	126.5	126.5
Rhoplex VSR 2015	524.2	524.2	524.2	524.2	524.2	524.2	524.2	524.2
Advantex	3.5	3.5	3.5	—	—	—	3.5	3.5
Ammonia, 28%	—	—	—	6.0	6.0	6.0	—	—
BYK 348	1.0	1.0	1.0	1.0	1.0	1.0	0.5	0.5
Tego Foamex 810	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0
RM 2020NPR	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
RM 8W	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
Water	19.2	25.7	31.7	—	15.1	29.2	—	6.5
<b>Total:</b>	<b>1033.8</b>	<b>1033.9</b>	<b>1033.4</b>	<b>1033.3</b>	<b>1033.4</b>	<b>1032.4</b>	<b>1032.5</b>	<b>1032.6</b>

## Performance results

Various attributes were measured and tested for the formulations above. The more efficient formulas are possible because higher MW and more functional neutralizing additives like Advantex™ favorably modify the physical properties of the system.

As the results in Table 2 demonstrate, formulation #8 with Advantex allows for the development of a lower odor, lower VOC paint that contains 75% less propylene glycol 50% less surfactant, 40% less defoamer and half as much dispersant than formulation #4, a comparable ammonia-based paint.

Table 2								
Quantities in pounds / 100 gallons	#1 Advantex (Control)	#2 Advantex (50% less PG)	#3 Advantex (zero PG)	#4 Ammonia (28%) (Control)	#5 Ammonia (28%) (50% less PG)	#6 Ammonia (28%) (zero PG)	#7 Advantex (reduced levels of surfactant, defoamer, dispersant vs. Advantex control)	#8 Advantex (reduced levels of PG, surfactant, defoamer, dispersant vs. Advantex control)
Amine level	3.5	3.5	3.5	6.0	6.0	6.0	3.5	3.5
Propylene glycol	12.9	6.5	0.0	30.1	15.1	0.0	12.9	6.5
Surfactant	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0
Defoamer	2.5	2.5	2.5	2.5	2.5	2.5	1.5	1.5
Dispersant	7.5	7.5	7.5	7.5	7.5	7.5	3.8	3.8
Viscosity, KU	94	94	94	96	98	101	103	103
Viscosity, ICI	0.9	0.9	0.8	0.9	0.9	0.8	0.9	0.9
F/T, 3 cycles – final viscosity KU	102	104	Fail – 3 <sup>rd</sup>	108	Fail – 1 <sup>st</sup>	Fail – 1 <sup>st</sup>	112	114
Viscosity difference	8	10	—	12	—	—	9	11
Leveling ASTM D4062	10	10	10	10	—	10	10	10
<b>Low temperature film formation, 6 mils 40°F</b>								
Sealed	10	10	10	10	—	10	10	10
Unsealed	10	10	10	10	—	10	10	10

Note: the ammonia-based formula is optimized so as to have the lowest level of all the additives.

To learn more about Advantex, visit  
[www.eastman.com](http://www.eastman.com)

**EASTMAN**  
The results of insight™

**Eastman Chemical Company**  
**Corporate Headquarters**  
P.O. Box 431  
Kingsport, TN 37662-5280 U.S.A.

Telephone:  
U.S.A. and Canada, 800-EASTMAN (800-327-8626)  
Other Locations, (1) 423-229-2000  
Fax: (1) 423-229-1193

[www.eastman.com](http://www.eastman.com)

Although the information and recommendations set forth herein are presented in good faith, Eastman Chemical Company makes no representations or warranties as to the completeness or accuracy thereof. You must make your own determination of their suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. Nothing contained herein is to be construed as a recommendation to use any product, process, equipment, or formulation in conflict with any patent, and we make no representations or warranties, express or implied, that the use thereof will not infringe any patent. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND NOTHING HEREIN WAIVES ANY OF THE SELLER'S CONDITIONS OF SALE.

Safety Data Sheets providing safety precautions that should be observed when handling and storing our products are available online or by request. You should obtain and review available material safety information before handling our products. If any materials mentioned are not our products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be observed.

© 2016 Eastman Chemical Company. Eastman brands referenced herein are trademarks of Eastman Chemical Company or one of its subsidiaries. The ® used on Eastman brands denotes registered trademark status in the U.S.; marks may also be registered internationally. Non-Eastman brands referenced herein are trademarks of their respective owners.