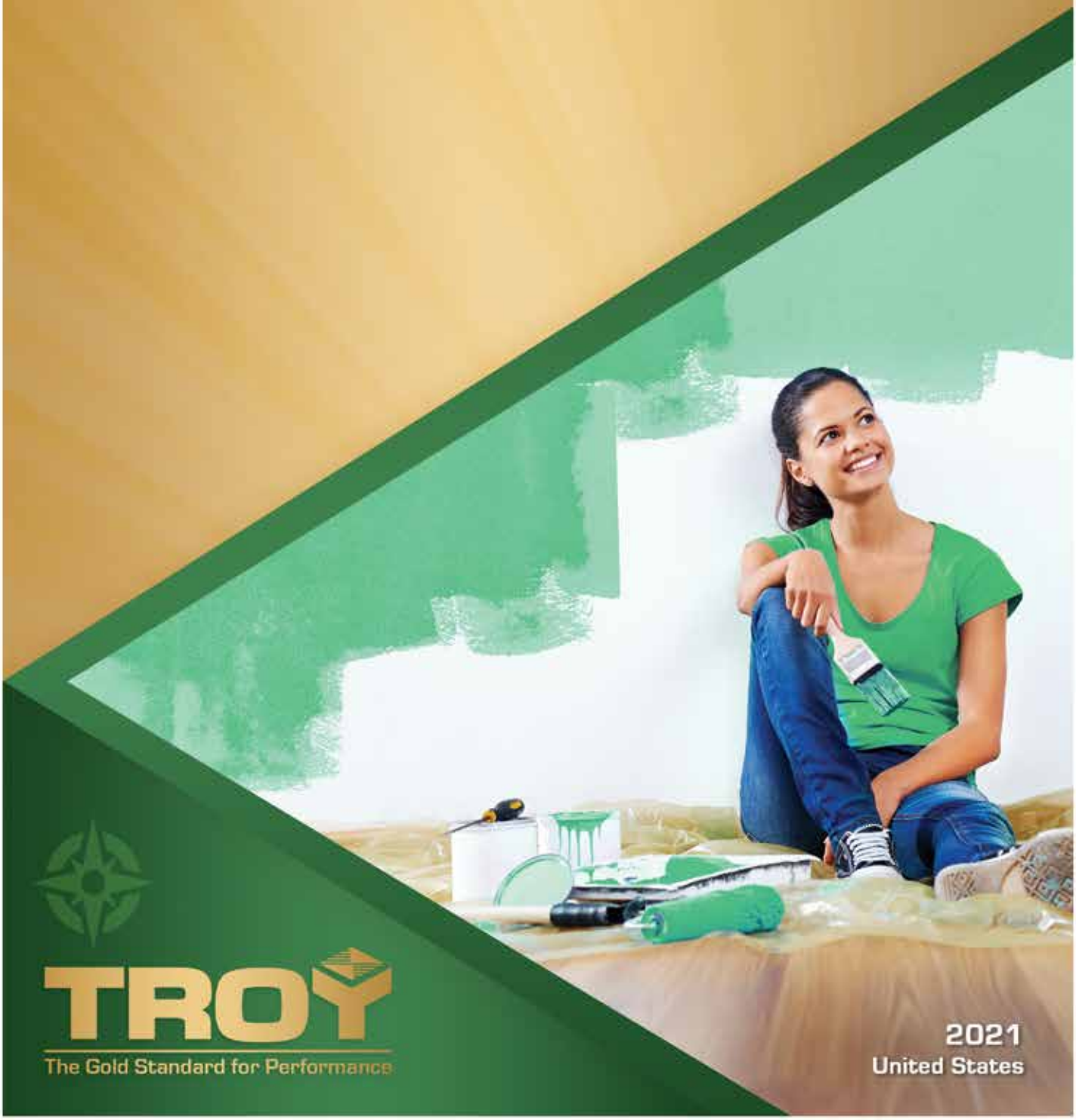
Performance Additives

PORTFOLIO FOR PAINTS & COATINGS



TROY

The Gold Standard for Performance

2021
United States

TROY

Performance Additives Selection Guide

Troy Performance Additives Enhance Coating Properties

Troy Performance Additives enable coatings manufacturers to develop formulated products that meet the demanding requirements of their customers. Troy Performance Additives include wetting additives, which promote surface wetting and enhance coating appearance; dispersing additives, which improve pigment color development; rheological additives, which improve application, reduce pigment settling, and provide resistance to sagging; and defoaming additives, which improve air release during production and application. Troy also offers a full line of advanced additives for powder coating systems. In addition to Performance Additives, Troy has a full range of driers for a wide range of systems, including loss-of-dry inhibitors and anti-skinning additives.

Technical service assistance is located in strategic worldwide locations to provide solutions to customer challenges and assist in the use of additives for new product development. Additionally, Troy's website, www.troycorp.com, offers registered visitors instant access to information on Performance Additive products, including TDSs, MSDSs, and industry and product brochures.

Wetting Additives

- Improve substrate wetting
- Improve adhesion
- Improve surface smoothness
- Improve gloss
- Improve color acceptance and uniformity
- Improve surface slip
- Eliminate surface defects

Dispersing Additives

- Improve hiding and color strength
- Reduce dispersion processing time
- Improve color uniformity
- Increase transparency for transparent pigments
- Improve gloss

Defoaming Additives

- Eliminate process foam
- Eliminate application foam

Rheological Additives

- Develop viscosity profile
- Improve application properties
- Reduce pigment settling
- Reduce coating sag
- Improve color uniformity

Powder Coating Additives

- Enhance flow & leveling
- Eliminate surface defects
- Promote degassing
- Create textures & special effects

Driers & Anti-Skinning

- Improve dry time
- Inhibit loss-of-dry
- Prevent skinning

This selection guide is designed to inform customers of the performance additives Troy currently offers, and to assist them in selecting products that will best serve their needs. Contact a Troy representative for further assistance, or visit www.troycorp.com for more information.

Additives for Aqueous Systems

Product	Uses	Features	Use Levels (% Weight)	Physical Form	Description	Incorporation
Wetting Additives						
Troysol™ AFP	Color float	Prevents flooding & floating	0.2 - 0.6	Powder	Surface-treated inert carrier	Grind
Troysol™ LAC	Substrate wetting, flow & leveling	Superior subtrate wetting	0.1 - 0.8	Liquid	Anionic surfactant	Let down, post-add
Troysol™ ZLAC	Substrate wetting, flow & leveling	No VOC, superior substrate wetting	0.1 - 0.8	Liquid	Anionic surfactant	Let down, post-add
Troysol™ Z370	Substrate wetting, flow & leveling, surface slip	Universal, no VOC contribution	0.1 - 0.5	Liquid	Siloxane co-polymer	Let down, post-add
Troysol™ 380W	Substrate wetting, flow & leveling	Reduces surface tension	0.2 - 0.6	Liquid	Siloxane polyalkylene co-polymer	Let down, post-add
Troysol™ 382	Substrate wetting, flow & leveling	Reduces dynamic surface tension	0.1 - 0.5	Liquid	Diol solution	Let down, post-add
Troysol™ MS2	Surface slip, anti-mar	Excellent recoatability	0.1 - 0.4	Liquid	Non-ionic surfactant oligomers	Let down, post-add
Troysol™ PWA	Substrate wetting	Improved adhesion to substrates	0.3 - 2.0	Powder	Surface-treated inert carrier	Dry Blend
Dispersing Additives						
Troysperse™ W	Pigment dispersion	Effective for color concentrates	Varies	Liquid	Amphoteric dispersant	Grind
Troysperse™ ZWD1	Pigment dispersion	Low use level, organic pigments	Varies	Liquid	Non-ionic dispersant	Grind
Troysperse™ ZWD3	Pigment dispersion	Highly efficient, carbon black	Varies	Liquid	Non-ionic dispersant	Grind
Troysperse™ 90W*	Pigment dispersion	Excellent for universal color concentrates	Varies	Liquid	Anionic dispersant	Grind

Product	Uses	Features	Use Levels (% Weight)	Physical Form	Description	Incorporation
Defoaming Additives						
Troykyd® D11	Adhesives	High efficiency, easily dispersible	0.1 - 0.4	Liquid	Hydrophobic silica	Grind, let down
Troykyd® D121	General purpose for dry blends	Dry powder	0.1 - 0.4	Powder	Glycol-treated carbonate	Dry Blend
Troykyd® D209W	Micro/macro foam	High efficiency, highly compatible	0.2 - 1.0	Liquid	Polyether siloxane emulsion	Grind, let down
Troykyd® D230	Process	Effective in color concentrates, FDA compliant	0.05 - 0.30	Liquid	Hydrophobic silica/silicone	Grind
Troykyd® D472	General purpose	Highly effective in high pH systems	0.4 - 0.8	Liquid	Glycol/surfactant blend	Grind, let down
Troykyd® D704	General purpose	High efficacy, execellent persistence	0.2 - 1.0	Liquid	Hydrophobic silica	Grind, let down
Troykyd® D720	General purpose	100% active, water-dispersible	0.2 - 1.0	Liquid	Synthetic wax	Grind, let down
Troykyd® D726	General purpose	Wide compatibility/ excellent persistence	0.2 - 1.0	Liquid	Hydrophobic silica/ synthetic wax	Grind, let down
Troykyd® D727	Performance/semi-gloss	Silicone-free/ease of incorporation	0.1 - 1.0	Liquid	Hydrophobic silica	Grind, let down
Troykyd® D729	Process	Strong process defoamer	0.05 - 0.50	Liquid	Hydrophobic silica/silicone	Grind, let down
Troykyd® D742	Performance/high-gloss	Good compatibility, excellent persistence	0.1 - 0.5	Liquid	Blend of modified silicones	Grind, let down
Troykyd® D745	Performance/high-gloss	Highly effective, excellent persistence	0.1 - 0.6	Liquid	Blend of modified silicones	Grind, let down
Troykyd® D767	General purpose	Silicone-free, mineral oil-free	0.1 - 0.5	Liquid	Emulsion	Grind, let down
Troykyd® D777	General purpose	Good compatibility	0.2 - 0.5	Liquid	Polymeric emulsion	Grind, let down
Rheology Modifiers						
Troythix® 704SSA	Anti-settling	Prevents pigment settling in aerosol coatings & stains	0.5 - 1.5	Powder	Surfactant inert carrier	Grind
Troythix® 707SSA	Anti-settling	Prevents pigment settling in aerosol coatings & stains	0.5 - 1.5	Powder	Surfactant inert carrier	Grind

Additives for Non-Aqueous Systems

Product	Uses	Features	Use Levels (% Weight)	Physical Form	Description	Incorporation
Wetting Additives						
Troysol™ AFP	Pigment float	Prevents flooding & floating	0.2 - 0.6	Powder	Surface-treated inert carrier	Grind
Troysol™ AFS	Pigment float	Prevents flooding & floating	0.2 - 0.6	Liquid	Non-ionic surfactant	Let down, post-add
Troysol™ S367	Substrate wetting, flow & leveling	Wets contaminated substrates	0.2 - 0.6	Liquid	Siloxane co-polymer	Let down, post-add
Troysol™ Z370	Substrate wetting, flow & leveling, surface slip	No VOC contribution	0.1 - 0.5	Liquid	Siloxane co-polymer	Let down, post-add
Troysol™ Z377	Substrate wetting, flow & leveling	Low VOC, silicone-free	0.1 - 0.5	Liquid	Acrylic co-polymer	Let down, post-add
Troysol™ MS2	Surface slip, anti-mar	Excellent recoatability	0.1 - 0.4	Liquid	Non-ionic surfactant oligomers	Let down, post-add
Dispersing Additives						
Troysperse™ CD1	Pigment dispersion	Excellent pigment dispersion and stabilization	Varies	Liquid	Derivative of polymerized oils	Grind
Troysperse™ 98C	Pigment dispersion	Effective with carbon black, iron oxides, and organics	Varies	Liquid	Fatty amine surfactant	Grind
Troysperse™ W	Pigment dispersion	Effective for color concentrates	Varies	Liquid	Amphoteric dispersant	Grind
Troysperse™ 90W*	Pigment dispersion	Excellent for universal color concentrates	Varies	Liquid	Anionic dispersant	Grind

Product	Uses	Features	Use Levels (% Weight)	Physical Form	Description	Incorporation
Rheology Modifiers						
Troythix® XYZ	Thixotropy, sag resistance, anti-settling	Low activation temperature	0.2 - 1.0	Powder	Castor oil ester	Grind
Troythix® A	Thixotropy, sag resistance, anti-settling	Excellent for industrial coatings, adhesives & sealants	0.2 - 1.0	Powder	Modified castor oil ester	Grind
Troythix® AntiSag 4	Sag resistance, anti-settling	Post-add to reduce sag	0.4 - 1.0	Liquid	Sulphonated castor oil	Let down, post-add
Troythix® 21BA	Viscosity	Imparts thixotropic properties, easy post-add	0.5 - 1.5	Liquid	Chemically modified polymerized oil	Let down, post-add
Troythix® 42BA	Viscosity	Viscosity adjustments for oxidizing systems, easy post-add	0.5 - 1.5	Liquid	Chemically modified polymerized oil	Let down, post-add
Troythix® 150ACS	Viscosity, sag resistance, anti-settling	Excellent pigment suspension	0.5 - 5.0	Paste	Polyamide wax	Incorporate with shear
Troythix® 152H	Viscosity, sag resistance, anti-settling	High viscosity, excellent pigment suspension	0.5 - 5.0	Paste	Polyamide wax	Incorporate with shear
Troythix® 154B	Viscosity, sag resistance, anti-settling	HAPS-free, aromatic-free	0.5 - 5.0	Paste	Polyamide wax	Incorporate with shear
Troythix® 60X	Anti-settling	Prevents pigment agglomeration & hard settling	0.5 - 1.5	Paste	Polyolefin wax	Grind, heat activation
Troythix® 200X	Viscosity, anti-settling, sag resistance	Excellent pigment suspension, pourable gel	1.0 - 5.0	Flowable paste	Polyolefin wax	Grind, let down
Troythix® 220B	Viscosity, anti-settling, sag resistance	Excellent pigment suspension, HAPS-free, aromatic-free	1.0 - 5.0	Paste	Polyolefin wax	Grind
Defoaming Additives						
Troysol™ AFL	Air release	Highly effective in solvent systems	0.2 - 0.6	Liquid	Polymeric ester blend	Grind, let down
Troysol™ 307	Air release	Additional flow & leveling functionality	0.2 - 0.6	Liquid	Non-ionic polymeric surfactant/silicone co-polymer	Grind, let down

Suggested Application Systems for Troy Additives

Product	Dry	Non-Aqueous																Aqueous								
		Alkyd		Acrylic		Epoxy			Urethane			Polyester		Lacquers				Water Reducible			Emulsion				
	Cementitious	Air-Drying	Baking	Air-Drying	Baking	2-Component	Epoxy Ester	Epoxy-Phenolic	2-Component	Oil-Modified	Moisture-Curing	Saturated	Unsaturated	Nitrocellulose	Butyrate	Vinyl	Chlorinated Rubber	Alkyd	Acrylic	Polyester	Pure Acrylic	Modified Acrylic	Vinyl Acetate/ Ethylene	Urethane (PUD)	Alkyd
WETTING ADDITIVES																										
Troysol™ AFP		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						
Troysol™ AFS		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						
Troysol™ LAC																		•	•	•	•	•	•	•	•	
Troysol™ ZLAC																		•	•	•	•	•	•	•	•	
Troysol™ S367		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
Troysol™ Z370		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Troysol™ Z377		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
Troysol™ 380W																		•	•	•	•	•	•	•	•	
Troysol™ 382																		•	•	•	•	•	•	•	•	
Troysol™ MS2		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Troysol™ PWA	•																									
DEFOAMING ADDITIVES																										
Troykyd® D11																					•	•	•			
Troykyd® D121	•																									
Troykyd® D209W																		•	•	•	•	•	•	•	•	
Troykyd® D230																		•	•	•	•	•	•	•	•	
Troykyd® D472																					•	•				
Troykyd® D704																		•			•	•	•		•	
Troykyd® D720																					•	•	•			
Troykyd® D726																		•			•	•	•		•	
Troykyd® D727																		•	•	•	•	•	•	•	•	
Troykyd® D729																		•	•	•	•	•	•	•	•	
Troykyd® D742																		•	•	•	•	•	•	•	•	
Troykyd® D745																		•	•	•	•	•	•	•	•	
Troykyd® D767																		•	•		•	•	•	•	•	
Troykyd® D777																					•	•	•			
Troysol™ AFL		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
Troysol™ AFS																										
Troysol™ 307		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
DISPERSING ADDITIVES																										
Troysperse™ CD1		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						
Troysperse™ W																		•	•	•						
Troysperse™ ZWD1																		•	•	•	•	•	•	•		
Troysperse™ ZWD3																		•	•	•	•	•	•	•		
Troysperse™ 90W		•	•	•	•		•	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Troysperse™ 98C		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
RHEOLOGY MODIFIERS																										
Troythix® A		•	•	•	•	•	•	•	•	•	•	•	•		•	•	•									
Troythix® AntiSag 4		•		•			•			•			•													
Troythix® XYZ		•		•		•	•	•	•	•	•	•	•	•	•	•	•									
Troythix® 21BA		•		•			•																			
Troythix® 42BA		•	•				•			•			•	•												
Troythix® 150ACS		•	•	•	•	•	•	•	•	•	•		•	•	•	•	•									
Troythix® 152H		•	•	•	•	•	•	•	•	•	•		•	•	•	•	•									
Troythix® 154B		•	•	•	•	•	•	•	•	•	•		•	•	•	•	•									
Troythix® 704SSA		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						
Troythix® 707SSA		•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•						
Troythix® 60X		•	•	•	•	•	•	•	•	•	•		•	•	•	•	•									
Troythix® 200X		•	•	•	•	•	•	•	•	•	•		•	•	•	•	•									
Troythix® 220B		•	•	•	•	•	•	•	•	•	•		•	•	•	•	•									

Product	Features	Use Levels (% Weight)	Description	Incorporation	Suggested Application Systems							
					OEM	Automotive Body, Trim & Auxiliary	Clear Coat	Appliance	Architectural	Lawn & Garden	General Industrial	Functional
Flow and Leveling												
Powdermate 460PFL	Eliminates craters, orange peel, & pin-holes in general industrial pigmented coatings	0.5 - 2.0	Acrylic Flow Modifier	Add to premix, high shear premixing				•	•	•	•	
Powdermate® 486CFL	Excellent Clarity and Surface Smoothness	0.5 - 2.0	Amide-modified Polyether Oligomer	Add to premix, high shear premixing	•	•	•	•	•	•	•	
Powdermate® 570FL	Excellent Clarity and Surface Smoothness with Intercoat Adhesion	0.5 - 2.0	Amide-modified Polyether Oligomer	Add to premix, high shear premixing	•	•	•	•	•	•	•	
Powdermate® 575FL	Excellent Clarity and Improved Surface Smoothness with Intercoat Adhesion	1.0 - 3.0	Amido Ester Modified Polyether Oligomer	Add to premix	•	•	•	•	•	•	•	
Powdermate® 507PFL	Excellent Surface Smoothness and Distinctness of Image (DOI)	0.5 - 2.0	Amide-modified Polymeric Ester	Add to premix	•	•		•		•	•	•
Degasser												
Powdermate® 542DG	Non-yellowing Degassing with Excellent Clarity	0.5 - 2.0	Polymer-based Surfactant	Add to premix	•	•	•	•	•	•	•	
Powdermate® 550DG	Non-yellowing Degassing	0.5 - 2.0	Amide-modified Phenol Surfactant	Add to premix	•	•	•	•	•	•	•	•
Texturizing Agent												
Powdermate® 508TEX	Post-blend Texturing Additive with Excellent Consistency	0.5 - 2.0	Polymer-based Surfactant	Post-blend	•			•	•	•	•	•

Access Additional Powdermate Literature at troycorp.com

For more information, a comprehensive Powdermate brochure is available, detailing Troy's complete line of powder coating additives. To view and download this full product brochure, as well as product PDSs and SDSs, visit troycorp.com.

Driers & Anti-Skinning Agents

Troy driers and metal carboxylate products enable manufacturers to create value added, high performance coatings, including architectural, decorative, OEM/industrial, traffic, and gel coat, as well as inks, lubricants, and many other industrial and consumer materials. Troy offers a full portfolio of paint driers, which are shown on page 11.

Over periods of prolonged paint storage, however, paint driers become deactivated — a condition known as loss-of-dry. The best defense is to incorporate a loss-of-dry inhibitor. In reponse to this challenge, Troy developed Troymax™ Permadry, a high-performance loss-of-dry inhibitor. By incorporating Troymax Permadry into formulations, drying times can be maintained for significantly longer periods, extending product shelf-life and protecting the paint's commercial value.

Consumers and manufacturers are affected by the skinning of liquid products such as paints, stains, inks, and other coatings. Skinning is a premature, unwanted, film-formation on liquid or slurried product surfaces. The risk of skinning can be reduced with the addition of Troymax Antiskin agents. Troy's line of Troymax Antiskin products is shown on page 11.

Access Additional Driers Literature at troycorp.com

For more information, comprehensive brochures are available, detailing Troy's complete lines of Driers and Antiskinning Agents, as well as unique Troymax Permadry. To view and download these full product brochures, as well as product PDSs and SDSs, visit troycorp.com.

Product		Description
Driers		
Troymax® Bismuth	**24**	Carboxylates from Synthetic Acids
Troymax® Calcium	**10NA, 8NA, 6NA, 5NA, 4NA**	Carboxylates from Synthetic Acids
Troymax® Calcium Octoate	**6, 5**	Carboxylates from Synthetic Acids
Troymax® Cobalt	**6, 8, 10 NEO, 10, 12 NEO, 6 D60, 10 D60, 12 D20, 12**	Carboxylates from Synthetic Acids
Troymax® Lithium	**2**	Carboxylates from Synthetic Acids
Troymax® Manganese	**12, 10, 9, 6**	Carboxylates from Synthetic Acids
Troymax® Potassium	**15**	Carboxylates from Synthetic Acids
Troymax® Strontium	**10**	Carboxylates from Synthetic Acids
Troymax® Zinc	**22,18, 16, 16 NEO, 12, 10, 8**	Carboxylates from Synthetic Acids
Troymax® Zirconium	**24, 18, 12, 10, 6**	Carboxylates from Synthetic Acids
Troychem® Copper	**8**	Naphthenates
Troychem® Zinc	**8**	Naphthenates
Troymax® Permadry		Loss of Dry Inhibitor & Water Dispersible
Troymax® Cobalt	**21**	Loss of Dry Inhibitor
Troychem® Calcium	**6WD**	Water Dispersible
Troychem® Cobalt	**6WD**	Water Dispersible
Troychem® Manganese	**6WD**	Water Dispersible
Troychem® Zirconium	**12WD**	Water Dispersible
Troymax®	**KC10**	Water Dispersible
Troymax® Lithium	**2**	Water Dispersible
Troymax®	**350**	Organic Drier Accelerator
Troymax®	**CZ69,CSD, 123, 2002, KC10**	Standard Drier Blends
Troymax®	**BXPB**	Lead Replacement
Oxime-Based Anti-Skinning Agents		
Troymax® Antiskin OS	Oxime-Based Anti-Skinning Agents	
Troymax® Antiskin OP	Oxime-Based Anti-Skinning Agents	
Troymax® Antiskin OL	Non-Oxime Anti-Skinning Agent	
Troymax® Antiskin B	Oxime-Based Anti-Skinning Agents	
Troymax® Antiskin MP	Oxime-Based Anti-Skinning Agents	

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Services

As a Performance Partner, Troy offers a variety of services to support our product line of preservatives and additives to meet customer needs and provide market solutions.

Troy invites you to take advantage of the Troy services that can help you achieve your market objectives.

- Technical Service representatives can provide formulation assitance, product evaluation, and microbiological, analytical, and field testing to assist you in developing an optimum formulation that meets your product objective.
- Regulatory support is offered globally with regional and national expertise to meet your needs.
- R&D scientists work to anticipate future industry needs and develop innovative technology. Contact your Troy representative to discuss your unique requirement that may not be met by materials currently on the market. In fact, Troy may have just what you need already under development and if not, may be able to work with you to achieve your objective.
- A global supply network is in place to ensure product availability and fast delivery. Contact your local representative to ensure the product you need is available when you need it.

Contact your nearest Troy representative for immediate assistance or visit us online at www.troycorp.com. When visiting the website, become a registered user to obtain access to a wide range of resources.

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