



AQUAMIX™ DISPERSIONS & EMULSIONS

FACT SHEET

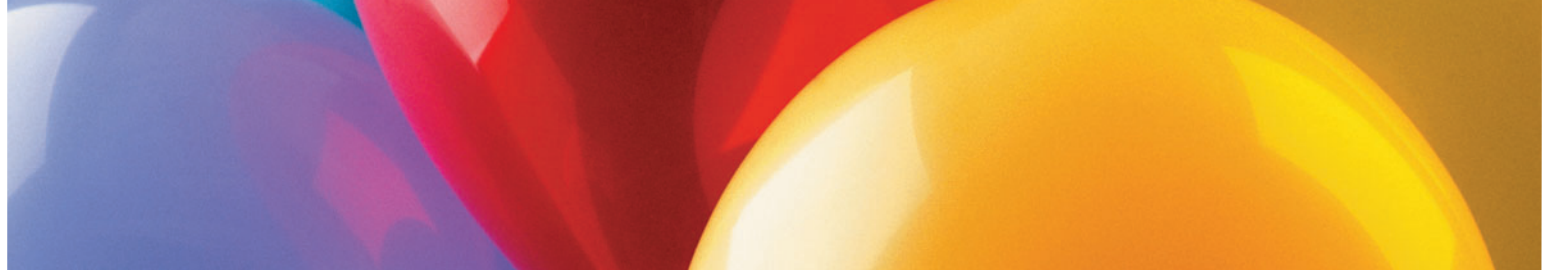
Using 40 years of customization and technical expertise, Aquamix dispersions and emulsions from PolyOne® Chemists help latex formulators, adhesive manufacturers, specialty coatings producers, and polymer manufacturers shorten development cycles, streamline operations, and more effectively use resources. For manufacturers and producers that need to work better and faster, proprietary Aquamix custom formulations are our business-as-usual solutions for the world's leading companies.

PolyOne provides a full line of dispersed and emulsified accelerators, fillers, vulcanizers, and tackifiers customized to meet your needs:

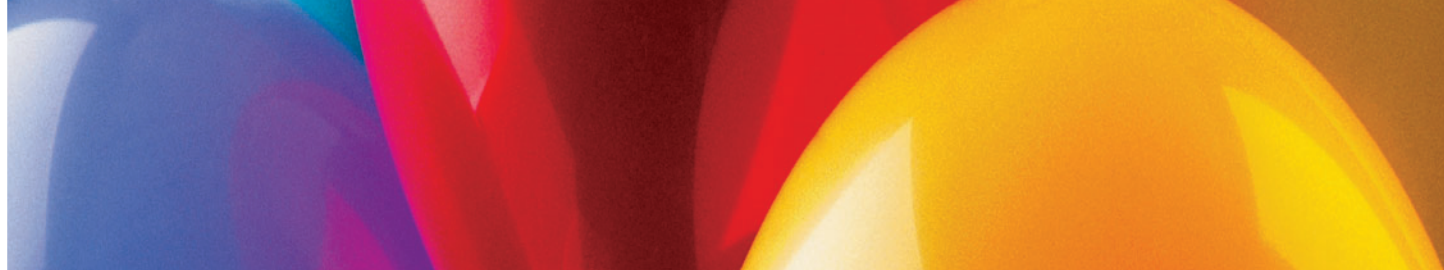
- Single and multiple component systems
- Additive and cureblend packages for specific requirements to control ratios of critical ingredients
- High-quality antioxidant dispersions and emulsions that achieve standardization around global requirements

Our knowledgeable Sales and Technical staff strive to bring timely and practical solutions to your unique application through our complete, customizable Aquamix product line.

INGREDIENT	PRODUCT	% ACTIVITY	CHEMICAL NAME / COMMENTS
ACCELERATOR DISPERSIONS			
DPG	Aquamix 165	50	1, 3 Diphenylguanidine
DPTT (DPTH)	Aquamix 122	50	Dipentamethylenethiuram Hexasulfide
MBT	Aquamix 305	50	2-mercaptobenzothiazole
MBTS	Aquamix 111	50	Benzothiazyl disulfide
TETD	Aquamix 181	50	Tetraethylthiuram Disulfide
TMTD	Aquamix 121	55	Tetramethylthiuram Disulfide
TMTM	Aquamix 179	50	Tetramethylthiuram Monosulfide
ZBEC	Aquamix 167	40	Zinc Dibenzylthiocarbamate
ZDBC	Aquamix 129	50	Zinc Dibutylthiocarbamate
ZDEC	Aquamix 130	50	Zinc Diethylthiocarbamate
ZDMC	Aquamix 131	50	Zinc Dimethylthiocarbamate
ZMBT	Aquamix 128	50	Zinc 2-mercaptobenzothiazole

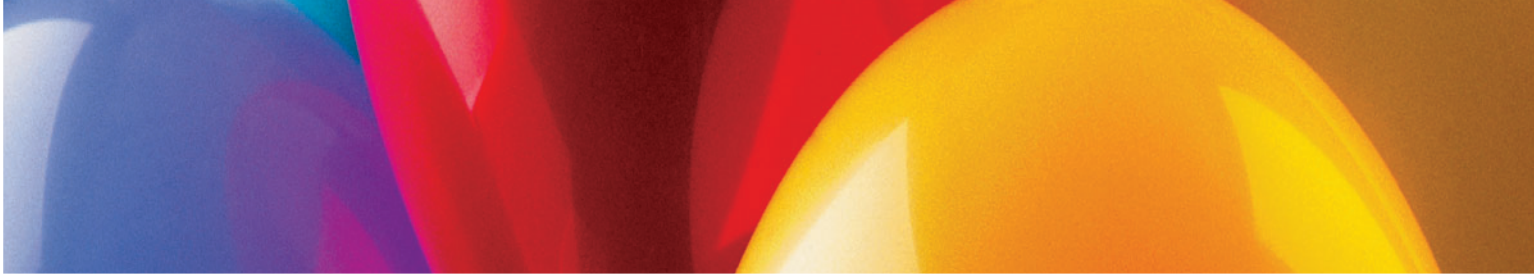


INGREDIENT	PRODUCT	% ACTIVITY	CHEMICAL NAME / COMMENTS
ANTIOXIDANTS DISPERSIONS			
AO 2246	Aquamix 105	40	General purpose non-staining phenolic AO dispersion highly effective in natural and synthetic polymers.
Irganox® 1010	Aquamix 327	40	Non-staining phenolic AO dispersion where high temperature applications are required.
Irganox® 1076	Aquamix 683	40	General purpose non-staining hindered phenolic AO dispersion for a wide range of polymer systems.
Wingstay® L	Aquamix 125	50	Most effective, non-staining, non-discoloring polymeric hindered phenolic AO dispersion.
ANTIOXIDANTS EMULSIONS			
Wingstay® 29/SN-1	Aquamix 312	50	Low staining synergized amine AO emulsion highly effective in waterborne polychloroprene with excellent finished end product protection.
Wingstay® L/SN-1	Aquamix 289	50	Non-staining thioester synergized phenolic AO emulsion highly effective in natural and synthetic polymers and excellent finished end product protection.
Wingstay® L/SN-1	Aquamix 494	60	Higher concentrated version of Aquamix 289.
Wingstay® 29	Aquamix 126	50	Low staining amine AO emulsion highly effective in polychloroprene with excellent finished end product protection.
CURATIVE DISPERSIONS			
Zinc Oxide	Aquamix 132	60	High surface area zinc activator for use in most cure packages.
Zinc Oxide	Aquamix 142	50	Standard zinc activator for use in most cure packages.
Sulfur	Aquamix 120	68	Additive for crosslinking.
FILLER DISPERSIONS			
Calcium Carbonate	Aquamix 320	70	Near white filler for natural and synthetic polymers.
Clay	Aquamix 186	65	Partitioning agent or filler for natural or synthetic waterborne polymers.
HI-SIL® 233	Aquamix 453	20	Silica filler for superior tensile strength properties.
Rutile Titanium Dioxide	Aquamix 124	60	White colorant and filler for natural and synthetic polymers.
FLAME-RETARDANT DISPERSIONS			
Antimony Trioxide	Aquamix 104	60	Flame retardant highly effective in halogenated latex or in combination with bromine additive.
ATH	Aquamix 473	55	Alumina Trihydrate. For use in non-halogenated systems.
DBDPO	Aquamix 519	60	Decabromodiphenyl Oxide
ZB	Aquamix 242	50	Zinc Borate



INGREDIENT	PRODUCT	% ACTIVITY	CHEMICAL NAME / COMMENTS
OPTICAL BRIGHTNER DISPERSION			
Optical Brightner	Aquamix 604	50	Optical brightner for better surface gloss and brightness and phosphorescent properties.
PLASTICIZER AND OIL EMULSIONS			
DIDP	Aquamix 391	65	Diisodecyl Phthalate
DOA	Aquamix 387	65	Dioctyl Adipate
DOP	Aquamix 109	65	Dioctyl Phthalate
Paraffinic Oil	Aquamix 441	50	
Naphthenic Oil	Aquamix 639	65	
TACKIFIER DISPERSIONS			
Pentalyn® C	Aquamix 569	50	Synthetic resin. High softening point and greater resistance to oxidation. Used mainly in varnishes, inks, and adhesives, where its hardness, resistance to aging, solubility, and inherent adhesiveness are desirable properties.
Picco® 2100	Aquamix 703	50	Hydrocarbon resin. Resistant to acid, alkalies, and moisture. For use in elastomers in the production of pressure-sensitive adhesives, mastics and sealants based on styrene-butadiene rubber where color and heat stability are not critical.
Poly-Pale Ester 10	Aquamix 568	50	Synthetic resin. High softening point. Main use in adhesives.
Tackifier Resin	Aquamix 570	50	Terpene Phenolic Resin. Melt temperature 150° C
Trackifier Resin	Aquamix 814	60	Phenolic Resin. Melt temperature 90° C
Wingtack® 95	Aquamix 789	50	Hydrocarbon resin. Used in hot melt adhesives and high pressure sensitive adhesives.
UV STABILIZER DISPERSION			
Tinuvin® P	Aquamix 150	50	UV absorber to prevent UV degradation
SLAB DIP DISPERSIONS			
Clay	Aquamix 186	65	
Zinc Stearate	Aquamix 394	25	
Wax Amide	Aquamix 1124	20	
Calcium Stearate	Aquamix 1172	50	

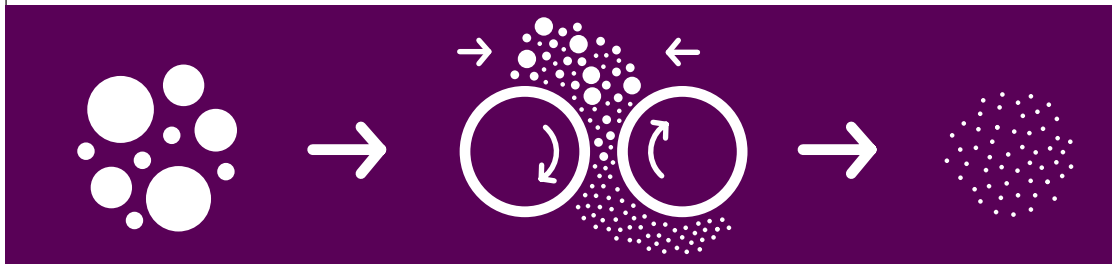
NOTE: *Since these products are water-based, they must be kept from freezing. It is highly recommended that these materials be thoroughly mixed prior to use.*



Our Aquamix dispersions and emulsions are formulated and manufactured in our modern facility and laboratory located in Massillon, Ohio. This facility was designed and equipped to meet our customers' most demanding standards for quality and consistency. The extensive capabilities afforded by our modern facility enables us to control particle size, settling characteristics, and long-term stability.

Aquamix products are available in 5-gallon pails; 55-gallon polyethylene-lined fiber drums; totes; tanker-trucks; or customized packaging to fit your specific requirements. Dispersants and emulsifiers used in Aquamix products are chosen, when possible, from a list of FDA-compliant or GRAS (generally recognized as safe) materials. A line of casein-free dispersions is also available.

- ▶ **DISPERSION: A HIGHLY STABLE SOLID INCORPORATED INTO A WATER DISPERSION, THROUGH HIGH-SHEAR GRINDING.**
- ▶ **EMULSION: WATER IMMISCIBLE LIQUIDS AND INSOLUBLE SOLIDS INCORPORATED INTO A WATER-BASED SUSPENSION THROUGH MODERATE- TO HIGH-SHEAR MECHANICAL AGITATION.**
- ▶ **FOR EFFICIENT FINE GRINDING, BOTH IMPACT ACTION AND SHEARING FORCE ARE USED.**



▶ **Massillon, Ohio:** Located in the region known for rubber and polymer research, development, and manufacturing, our modern Massillon plant with 90 employees and 100,000 sq. ft. of manufacturing floor space is home to our latest technology. Our laboratory boasts complete analytical testing capabilities along with special equipment, which can simulate a wide range of production processes. Our manufacturing facility also offers technologically advanced product development services.

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That is our mission at PolyOne, and we fulfill it by delivering premium-quality products and services, which our customers use to enhance their own products. We believe no competitor can match our technical expertise because no workforce can outperform the people of PolyOne. Our people are ONE team working together – our strength and our pride. Their skills, passion, and dedication are shaping a potent industry leader, a concerned corporate citizen, and a great place to work.

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