DELTA specialties

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Product Selection Guide
SINGLE METAL & MIX DRIERS

SPECIFICATIONS & SUITABILITY BY INDUSTRY

Product name	Description	Symbol	Metal content	Dosage per resin solids
MORDRY® Barium 10 WD	MORDRY® Barium 10 WD is an auxiliary drier for all water-reducible oxidatively drying alkyd paints. Excellent results can be achieved when using MORDRY® Barium 10 WD together with other water-dispersible metal driers such as MORDRY® Cobalt 6 WD, MORDRY® Zirconium 12 WD and MORDRY® Manganese 6 WD. See MORDRY® Barium 12.5 for Barium carboxylates	Ba	10%	0.05%-0.6%
MORDRY® Barium 12.5	Barium carboxylates improve through-drying of a coating and have good pigment wetting characteristics. They also demonstrate lower water sensitivity than Calcium carboxylates. Barium carboxylates improve gloss and prevent adsorption of the primary driers at the surface of the pigments and extenders, thus increasing the stability of the coating during prolonged storage. In combination with Cobalt, Barium has a similar effect to that of Lead. Thus, it has seen some use as a substitute for	Ba	12.50%	0.1-0.5%
MORDRY® Calcium 4	Calcium carboxylates, by themselves, have minimal effectiveness as driers but are very useful when used in combination with active driers such as Cobalt and Manganese. Calcium driers help to improve hardness and gloss as well as to reduce skin-formation, silking, and blooming. They are also useful as pigment wetting/dispersing agents and loss-of-dry inhibitors. Calcium carboxylates are not recommended for coatings subjected to drying under adverse conditions	Ca	4%	2.5-10.0%
MORDRY® Calcium 4 O (Over-based)	See MORDRY® Calcium 4 for Calcium carboxylates characteristics	Ca	4%	2.5-10.0%
MORDRY® Calcium 4 WD	MORDRY® Calcium 4 WD is a water-dispersible Calcium salt of saturated branched mixture of acids. Excellent results can be achieved when using MORDRY® Calcium 4 WD together with other water-dispersible metal driers such as MORDRY® Cobalt 6 WD, MORDRY® Zirconium 12 WD and MORDRY® Manganese 6 WD. See MORDRY® Calcium 4 for Calcium carboxylates	Ca	4%	2.75%-8.1%
MORDRY® Calcium 10	See MORDRY® Calcium 4 for Calcium carboxylates characteristics	Ca	10%	1.0-4.0%
MORDRY® Cerium 10	Cerium carboxylates promote the polymerization and through-drying processes. They are particularly recommended for baking enamels and white and clear overprint varnishes, as they produce less discoloration than other active metals. Cerium driers are far less active than cobalt and manganese. At low temperatures (below 0ºC) or at very high atmospheric humidity, cerium driers do though show higher efficacy than the other primary driers	Ce	10%	0.1-0.5%
MORDRY® Cobalt 6	Cobalt carboxylates are the most effective oxidative catalysts at ambient temperatures. Cobalt is a primary drier for coating systems. Cobalt soaps function as oxidation catalyst and are used at low levels. The use of excessive amounts of cobalt in coating systems can cause rapid skinning, wrinkling of the film as it dries, and reduced water resistance of the cured film	Co	6%	0.04-0.16%
MORDRY® Cobalt 6 P	MORDRY® Cobalt 6 P is a specially formulated cobalt carboxylate for unsaturated polyester applications. MORDRY® Cobalt 6 P is characterized by giving lighter color than the regular cobalt octoate. See MORDRY® Cobalt 6 for Cobalt carboxylates characteristics	Co	~6%	0.04-1.0%
MORDRY® Cobalt 6 T	MORDRY® Cobalt 6 T is a drier for coatings based on Cobalt salt of saturated branched C8 acids in toluene. See MORDRY® Cobalt 6 for Cobalt carboxylates characteristics	Co	~6%	0.04-0.16%
MORDRY® Cobalt 6 WD	MORDRY® Cobalt 6 WD is a water-dispersible Calcium salt of saturated branched mixture of acids. Excellent results can be achieved when using MORDRY® Cobalt 6 WD together with other water-dispersible metal driers such as MORDRY® Calcium 4 WD, MORDRY® Zirconium 12 WD and MORDRY® Manganese 6 WD. See MORDRY® Cobalt 6 for Cobalt carboxylates	Co	6%	0.02%-0.08%
MORDRY® Cobalt 10	See MORDRY® Cobalt 6 for Cobalt carboxylates characteristics	Co	10%	0.02-0.08%
MORDRY® Potassium 10	Potassium carboxylates work synergistically with Cobalt in unsaturated polyester thermo-set systems	K	10%	0.5-2.0%
MORDRY® Manganese 6 WD	MORDRY® Manganese 6 WD is a water-dispersible Manganese salt of saturated branched mixture of acids. Excellent results can be achieved when using MORDRY® Manganese 6 WD together with other waterdispersible metal driers such as MORDRY® Cobalt 6 WD, MORDRY® Zirconium 12 WD and MORDRY® Barium 10 WD	Mn	6%	0.02%-0.04%
MORDRY® Manganese 10	Manganese carboxylates improve the surface drying of a paint film and also possess some through-drying properties. They are frequently used as polymerization accelerators in baking finishes and low-temperature drying systems.They are used most often in combination with Lead and/or Cobalt driers and an auxiliary drier. In baking systems, Manganese soaps are most often used as a sole metal drier	Mn	10%	0.2 -0.4%
MORDRY® Lead 24	Lead carboxylates promote thorough polymerization of the film, catalyzing the uniform drying ofthe surface and inside of it. In addition, they improves film's flexibility and its resistance to water and salt at the same time. Lead carboxylates are always combined with Cobalt and/or Manganese together with small amounts of Calcium drier	Pb	24%	0.12-0.9%
MORDRY® Lead 32	See MORDRY® Lead 24 for Lead carboxylates characteristics	Pb	32%	0.09-0.7%
MORDRY® Lead 36	See MORDRY® Lead 24 for Lead carboxylates characteristics	Pb	36%	0.08-0.6%

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MORDRY® Zinc 16	Zinc carboxylates exhibit anti-oxidant properties and are used as additives to retard the thermal breakdown of lubricating oils and greases. Either by themselves or in conjunction with Calcium or Barium, they are very efficient at stabilizing PVC against in-process heat degradation. The main function of Zinc carboxylates is to improve film hardness and prevent wrinkling of thick films	Zn	16%	0.8-1.2%
MORDRY® Zirconium 12	Zirconium carboxylates improve the through-dry of auto-oxidative drying systems. They are used in combination with Cobalt and Calcium carboxylates. They are preferentially used as replacements for Lead. Zirconium will yield improved gloss and color when compared to Lead. Zirconium carboxylates are also utilized as polymerization catalysts	Zr	12%	0.8-3.0%
MORDRY® Zirconium 12 WD	MORDRY® Zirconium 12 WD is a water-dispersible Zirconium salt. MORDRY® Zirconium 12 WD will yield improved gloss and color and is usually added in combination with Cobalt or Managanese (especially the water-dispersible versions MORDRY® Cobalt 6 WD and MORDRY® Manganese 6 WD) . See MORDRY® Zirconium 12 for Zirconium carboxylates characteristics	Zr	12%	0.8% and 3.0%
MORDRY® Zirconium 18	See MORDRY® Zirconium 12 for Zirconium carboxylates characteristics	Zr	18%	0.5 -2.0%
MORDRY® 210	MORDRY® 210 is a stabilized, ready-to-use blend of Cobalt and Zirconium dissolved in mineral spirit. This product can be used in applications where calcium is used as a wetting agent in the pigment dispersion stage. The pre-stabilized mixed drier can eliminate problems associated with coatings such as gelling or instability resulting in degradation of drying performance. MORDRY® 210 can	Mix	15%	0.6%-1.0%
MORDRY® 320	MORDRY® 320 is a stabilized, ready-to-use blend of Cobalt, Zirconium and Calcium suitable for use in a wide range of decorative paint systems. MORDRY® 320 is a single addition pre-blend drier system dissolved in mineral spirit. The pre-stabilized mixed drier can eliminate problems associated with coatings such as gelling or instability resulting in degradation of drying performance	Mix	1% (Co)	2.0%-8.0%
MORDRY® 380	MORDRY® 380 is a stabilized, ready-to-use Lead free blend of metals suitable for use in a wide range of decorative paint systems. MORDRY® 380 is characterized by giving lighter colors in clear varnishes and white based enamels	Mix	1.2% (Co)	1.5%-6.5%
MORDRY® 390	MORDRY® 390 is a stabilized, ready-to-use Lead-based blend of metals suitable for use in a wide range of decorative paint systems. MORDRY® 390 is characterized by giving lighter colors in clear varnishes and white based enamels	Mix	1% (Co)	2%-8%