

# Valirex

## Metal soaps driers and additives



Driers are an essential part of all paint formulations based on oxidatively curing resins. These resins invariably contain unsaturated fatty acids, of which the oxidation causes drying and hardening of the paint film.

The introduction of metal compounds as driers has followed the evolution of paint and varnish making. What once was an art, has now become a science.

Umicore Specialty Materials Brugge offers a wide choice of metal soaps or carboxylates as driers. Our standard driers are dissolved in aliphatic white spirit D60.

Today the introduction of REACH has put a lot of question marks behind the future use of cobalt carboxylates. As a result the future of alkyd based paints (and all oxidatively curing coatings) became a point of discussion and concern.

On the other hand REACH created a platform for innovation. Various producers have developed a so called cobalt alternative. Umicore has introduced a new technology that

offers an easy drop in against currently used cobalt carboxylates. Ask for the specific leaflet on our **new polymerization catalyst ECOS ND15.**

Metal soaps remain to have many applications outside the surface coating industry, as wood preservatives, lubricating oil additives, fuel-oil additives,... often based on naphthenic acids.

More detailed information is available upon request.

### Other compounds

Our experience in organic compounds is not purely limited to liquid metal soaps.

We also have experience in:

- solid carboxylates
- naphthenic acid
- many others

Please do not hesitate to contact us concerning your specific request or need.

### Specifications and technical datasheets

Our standard specifications are mentioned hereafter, yet we will be pleased to supply you technical and safety data sheets on request.

The list hereafter is an overview of the available products and mixtures. Of course, we will gladly advise you in finding the right drier for your specific needs.

# Driers and additives

Product	%	Tolerance % +/-	Colour Gardner max	Viscosity St/25°C max.	Solids min %	Specific weight max	Use
Ecos ND15	4	0.2	blue	50 P	81	960-1000	drier, oxidation catalyst alternative for cobalt carboxylates
<b>Valirex Cobalt</b>							
Co 6 d60	6	0.2	blue	0.2	25	880-920	drier, fuel additive, oxidation catalyst
Co 8 d60	8	0.2	blue	0.2	36	920-960	drier, fuel additive, oxidation catalyst
Co 10 d60	10	0.2	blue	3	40	980-1020	drier, fuel additive, oxidation catalyst
Co 12 d60	12	0.3	blue	5	55	1020-1060	drier, fuel additive, oxidation catalyst
Co 10 ester	10	0.2	blue	5		1000-1020	drier
Co 21 d60	21	0.3	blue	40	65	1150-1250	accelerator, feeder
<b>Valirex Calcium</b>							
Ca 4 d60	4	0.2	3	0.2	20	830-870	drier
Ca 5 d60	5	0.2	4	0.2	25	850-890	drier
Ca 10 d60	10	0.2	7	2	48	970-1020	drier
Ca 4 N d60	4	0.2	5	0.5	40	870-910	drier, wetting agent, additive drier
Ca 5 N d60	5	0.2	8	5	49	910-950	drier, wetting agent, additive drier
Ca 5 N ester	5	0.2	15	40	95	935-975	drier
<b>Valirex Manganese</b>							
Mn 6 d60	6	0.2	reddish brown	0.3	34	890-930	drier, fuel additive
Mn 8 d60	8	0.2	reddish brown	1	45	940-990	drier, fuel additive
Mn 8 ester	8	0.2	reddish brown	4		990-1030	drier
Mn 10 d60	10	0.2	reddish brown	6	55	1010-1060	drier, fuel additive
Mn 10 d40	10	0.2	reddish brown	6	65	1000-1040	drier, fuel additive
<b>Valirex Zinc</b>							
Zn 8 d60	8	0.2	4	0.5	36	870-920	drier, additive
Zn 10 d60	10	0.2	4	0.5	45	920-960	drier, wood preservative
Zn 12 d60	12	0.3	4	0.5	53	950-990	drier, wood preservative
Zn 8 ep	8	0.2	16	10		960-1000	oil additive
Zn 10 ep	10	0.2	16	20		980-1020	additive for lubricants
Zn 15 versatate	15	0.3	3	5	72	1000-1050	drier, wood preservative
Zn 22	22	0.4	4	350		1130-1180	additive
Zn 22.5	22.5	0.4	3	35 P	95	1180-1210	additive
<b>Valirex Copper</b>							
Cu 8 low leach	8	0.2	dark green	20 min	-	1000-1040	pvc compounding
Cu 8 d60	8	0.2	dark green	5	50	940-1000	additive for unsaturated polyester
<b>Valirex Zirconium</b>							
Zr 6 d60	6	0.2	3	0.2	18	850-880	drier
Zr 12 d60	12	0.3	4	0.2	35	950-1010	drier
Zr 18 d60	18	0.3	4	2	54	1080-1130	drier
Zr 18 ester	18	0.3	7	3		1140-1180	drier
Zr 24 d60	24	0.3	4	10	70	1240-1290	drier
<b>Valirex Cerium</b>							
Ce 6 d60 pure	6	0.2	yellow green	1	23	890-930	drier for lead free systems
Ce 10 D60 pure	10	0.2	yellow green	5	45	970-1010	drier for lead free systems
<b>Valirex miscellania</b>							
Ba 12.5 d60	12.5	0.3	5	0.5	52	970-1000	drier
Sr 10 d60	10	0.2	4	5	45	940-980	drier
Sr 18 d60	18	0.2	4	5	40	1070-1110	drier
Li 2 d60	2	0.2	6	10		890-930	drier, catalyst
Fe 6 hf	6	0.2	dark brown	0.5	36	900-940	drier, fuel additive, woodstainer
Fe 10 hf	10	0.2	dark brown	3	60	980-1040	drier, fuel additive, woodstainer
K 15	15	0.3	5	100		1030-1130	fuel additive, polymerisation catalyst
Mo 15	15	0.5		300 cP40°			catalyst
<b>Valirex Nickel</b>							
Ni 5 Toluene	5	0.2	green	0.3		960-1000	catalyst
Ni 10 d60	10	0.3	green	200	50	980-1020	catalyst
Ni 13 d30	13	0.2	green	17 (20°)		1055-1095	catalyst

## Valikat catalysts

Product	%	Tolerance % +-	Colour Gardner max	Viscosity P/20°C max.	flashpoint min	Specific weight max	Use
Valikat Bi1610	16	0.5	yellow brown	50	101	1060 - 1160	PU catalyst
Valikat Bi2010	20	0.7	yellow brown	100	101	1100 - 1200	PU catalyst
Valikat Bi2010 L	20	0.7	yellow brown	250	101	1170 - 1270	PU catalyst
Valikat Bi2810	28	2	yellow brown	5000	101	1250 - 1350	PU catalyst
Valikat Bi2408	24	0.7	yellow brown	2.5	62	1140 - 1240	PU catalyst
Valikat Bi2808	28	2	yellow brown	50	101	1150 - 1350	PU catalyst
Valikat Zn1910	19	0.7	5	1500	101	1100 - 1140	PU catalyst
Valikat ZB1001	Bi/Zn		yellow	1000	101	1100 - 1200	PU catalyst
Valikat ZB8	Bi/Zn		yellow brown	500	101	1050 - 1150	PU catalyst

## Driers for aqueous systems

Product	composition	Tolerance % +-	Colour Gardner max	Viscosity St/25°C max.	Solids min %	Specific weight max	Use
Ecos ND15 aqua		0.2	blue	30P	85	960-1000	Ecos drier, oxidation catalyst
Ecos Mix 353 aqua	Co 2 - Ba 2 - Zr 3.3	0.2	blue	15P	75	990-1030	Ecos drier
<b>Valirex aqua</b>							
Valirex Ca 4 aqua	Ca 4	0.2	8	1	40	900-940	drier
Valirex Co 9 aqua	Co 9	0.2	blue	5	45	960-1000	drier
Valirex Zr 12 aqua	Zr 12	0.3	4	1max	45	1020-1060	drier
Valirex mix 353 aqua	Co 3.0 - Zr 5.0 - Ba 3.0	0.2	blue	1	58	1010-1050	drier
Valirex mix 265 aqua (metal content 12.5-13%)	Co +-5%-Li-Zr	0.2	violet	5		1060-1100	drier
Valirex mix 3703 aqua	Co 3 - Zr 7 - Li 0.3	0.2	blue	1	60	1010-1050	drier

## Combination driers

Product	composition	Tolerance % +-	Colour Gardner max	Viscosity St/25°C max.	Specific weight max	Use
Ecos SIL 413 d60	Co 1- Zr 1.7- Ca 3.9	0.2	blue	10	950-990	Ecos drier combination alternative for cobalt carboxylates
Ecos Co3Zr4.5 d60	Co 3 - Zr 4.5	0.2	violet	40P	980-1020	Ecos drier combination
Ecos mix 26 d60	Co 1.2- Ca 3 - Zr 6	0.2	blue	30P	1010-1050	Ecos drier combination
Ecos mix 38 N d60	Co 0.75 - Ca 1.5 - Sr 4.5	0.2	blue	10P	940-980	Ecos drier combination
Ecos mix 7 d60	Co 1 - Ba 6 - Zn 2.7	0.2	blue	5P	955-995	Ecos drier combination
Ecos mix 9 d60	Co 1 - Ba 6 - Zr 2.7	0.2	blue	2P	960-1000	Ecos drier combination
Ecos mix 53 d60	Co 1 - Ca 4 - Li 0.5	0.2	violet	15P	940-980	Ecos drier combination
Valirex Sil 413 d60	Co 1- Zr 1.7 - Ca 3.9	0.2	blue	2	920-960	universal drier
Valirex Co6Zr9 d60	Co6 - Zr 9	0.2	violet	2	1050-1100	drier combination
Valirex mix 7 d60	Co 1.2 - Ba 7.2 - Zn 3.2	0.2	blue	0.5	950-990	drier combination
Valirex mix 9 d60	Co 1.2 - Ba 7.2 - Zr 3.2	0.2	blue	0.5	960-1000	drier combination
Valirex mix 20 d60	Co 1.2- Zr 3.2 - Ca 4.0	0.2	blue	2	940-980	drier combination
valirex mix 26 d60	Co 1.2- Zr 6.0 - Ca 3.0	0.2	violet	1	960-1000	drier combination
Valirex mix 38 Nd60	Co 0.9 - Sr 5.4 - Ca 1.8	0.2	blue	5	920-970	drier combination
valirex mix 53 d60	Co 1.2 - Ca 4 - Li 0.6	0.2	violet	0.5	910-950	drier combination
Valirex 88A d60	Co 1.1 - Ca 2.2 - Sr 4.4	0.2	blue	5	920-970	drier combination
Valirex mix 222d60	Co 0.6 - Ca 2.0 - Zn 3.1	0.2	blue	2	880-920	drier combination
Valirex mix 259 d60	Co 1.8 - Zr 3.0 - Mn 2.4	0.2	violet	1	890-930	drier combination
Valirex mix 835 d60	Co 0.8 - Ca 3 - Zr 5	0.2	violet	1	940-990	low temperature, high humidity drier combination
Valirex mix 1055d60	Co 1.0 - Zr 5.0 - Ca 5.0	0.2	blue	2	980-1010	drier combination
Valirex mix 1255d60	Co 1.2 - Zr 5.0 - Ca 5.0	0.2	blue	2	980-1020	drier combination
Valirex mix H5x20	mixture of Co-Sr		blue	2.5	925-965	drier combination specifically designed for high solids alkyd resins

# Special Valirex driers for ink products

Product	%	Tolerance % +-	Colour Gardner max	Viscosity St/25°C max.	Specific weight max	Use
<b>Valirex Cerium</b>						
Ce 10 ink oil	10	0.2	yellow green	3	980-1020	drier for ink applications
<b>Valirex Cobalt</b>						
Co 5 hv	5	0.2	blue	5	920-960	drier for ink applications
Co 8 ester	8	0.2	blue	4	970-1010	drier for ink applications
Co 6 xylene	6	0.2	blue	0.2	930-960	accelerator, general oxidation catalyst
Co 10 xylene	10	0.2	blue	0.5	990-1030	accelerator, general oxidation catalyst
Co 12 xylene	12	0.3	blue	5	1030-1070	accelerator, general oxidation catalyst
Co 6 ink oil	6	0.2	blue	1	890-930	drier for ink applications
Co 6.5 ink oil	6.5	0.2	blue	1	920-960	drier for ink applications
Co 8 ink oil	8	0.2	blue	2	950-990	drier for ink applications
Co 10 ink oil	10	0.2	blue	3	990-1030	drier for ink applications
Co 10 ester	10	0.2	blue	5	1000-1040	drier for ink applications
Co 12 ink oil	12	0.3	blue	15	1020-1060	drier for ink applications
<b>Valirex Manganese</b>						
Mn 6 ink oil	6	0.2	reddish brown	3	930-960	drier for ink applications
Mn 8 ink oil	8	0.2	reddish brown	5	960-1000	drier for ink applications
Mn 10 ink oil	10	0.2	reddish brown	25	1030-1070	drier for ink applications
Mn 6 ester	6	0.2	reddish brown	1	950-980	drier for ink applications
Mn 8 ester	8	0.2	reddish brown	4	990-1030	drier for ink applications
<b>Valirex Noval</b>						
noval			max 1	0.2	910-930	anti skinning agent
noval 50 % ink oil			max 2	0.1	850-880	anti skinning agent
noval 50 % d60						anti skinning agent
<b>Valirex mixes</b>						
Co2Mn6 d60			violet	3	940-980	drier for ink applications
Co2Mn6 ink oil			violet	3	960-1000	drier for ink applications
Co2Mn6 ester			violet	10	980-1020	drier for ink applications
Co2Mn6.5 ink oil			violet	3	980-1020	drier for ink applications
Ecos Co 1.6 Mn 4.8 ink oil			violet	15	970-1010	Ecos drier combination
Ecos Co 1.6 Mn 4.8 ester			violet	15	970-1010	Ecos drier combination
Ecos Co 1 Mn 3 polymer			brown	70	970-1010	Ecos drier combination
Ecos Co 1.6 Mn 4.8 ink oil			violet	15	970-1010	Ecos drier combination

## Liability disclaimer

This information is accurate to the best of our knowledge, but without any guarantee. You should check the suitability of our products for your purposes. If necessary, you can consult our technical service staff.