

ORGANOMETAL®

METAL CARBOXYLATES & ADDITIVES

Sr Cu Mn Li Fe K Ba Ca Co Zr Pb Zn

PRODUCT CATALOGUE

INTRODUCTION



ORGANOMETAL was founded in 1983 in Athens Greece. The company is specialised in manufacturing metal carboxylates of synthetic and natural fatty acids, derivatives of fatty acids in general and additives for the coating industry.

Our Company

Organometal was founded in 1983 in Athens Greece and has an extended experience for over 30 years in production of metal carboxylates. Our fully automated manufacturing process, as well as our new highly specialised and equipped laboratory that evaluates our specialty products, ensure the present and future source of products with high quality standards that match your specifications and formulations.

All our products are manufactured in our modern facilities built in 2003 in the northern suburbs of Athens on the 55th km of the national high way from Athens to Lamia in the industrial area of Inofyta.

Our company has been awarded the EN ISO 9001:2008 Quality Certificate in 2008.

Our Values

Organometal strives for higher quality, lower cost and environmentally friendly products.

We are passionate about our business, committed to provide exceptional services and devoted to honest communication.

We constantly work for your specific manufacturing process requirements whether an existing material, a modified formulation or the development of a new product is requested.

We are always dedicated to provide innovative and creative ideas and solutions.

Our Products

Driers & Catalysts

Driers are used to accelerate the drying process, resist loss-of-dry, and improve the film properties as for instance gloss and film hardness. Organometal provides a wide range of Primary, Through and Auxiliary dries for aqueous and solvent based coatings. Our driers are offered on their own or in combinations according to the customersôapplications and needs.

Defoamers

Defoamers are used to prevent or remove entrapped air in aqueous and non-aqueous systems and therefore inhibit the formation of foam. Organometal offers a variety of defoamers for water and solvent coating systems.

Anti-Skinning Agents

Organometalôs anti-skinning agents prevent the skinning of coatings during storage and therefore preserve the quality of paints over time and extend their life.



All our products are manufactured in our facilities built in 2003 in the northern suburbs of Athens on the 55th km of the national high way from Athens to Lamia in the industrial area of Inofita.

Our Services

Our well trained sales and technical department provides excellent customer service backed with the experience of identifying the needs and can be challenged each time to give the best solutions to the industries we serve.

Our in depth knowledge and compliance with all European Union legislations for production and products distribution (REACH), the new environmental standards for VOC and the safety regulations for storage and handling, guaranties the reliable operation of our company in the future. All the necessary information and documentation regarding safety and regulatory compliance is being provided along with our products.

Our R&D department continuously develops new products to meet customersôcriteria and specific needs.

Please do not hesitate to contact us for any inquires that you might have.

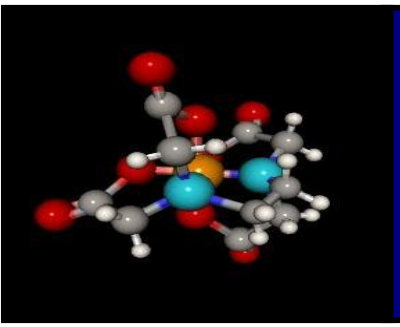
Contact Us

Office
Georgiou Androutsou 5, 11741
Athens Greece
Email: orgmetal@otenet.gr

Manufactury Plant
Thesi Ntabasi Inofyta Biotias
PO BOX 26, 32011Greece
Phone: +302262030972
Fax: +302262056646
Email: info@organometal.gr

For more information please visit our website: www.organometal.eu

METAL CARBOXYLATES



Metal carboxylates or metal soaps are the reaction products between metals and organic fatty acids, natural or synthetic.
These products are mostly distributed as solutions in hydrocarbon solvents.

ORGANOMETAL manufacture a wide variety of metal carboxylates of several different metals using synthetic fatty acids in a wide range of solvents.

Metal carboxylates find extensive use as:

- Catalysts
- Driers for
  - Solvent-borne Coatings
  - High-solids Coatings
  - Water-born Coatings
  - Printing Inks
- Rubber Adhesion Promoters
- Polyester Accelerators
- Plastic Stabilizers
- Lubricant Additives
- Fuel Additives

Metal carboxylates are used in coatings as catalysts of alkyd resin polymerization cross-linking.

The most common metals are:

1 H																2 He
3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
19 K	20 Ca	21 Se	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
55 Cs	56 Ba	57 La	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Ti	82 Pb	83 Bi	84 Po	85 At	86 Rn
87 Fr	88 Ra	89 Ac	104 Rf	105 Ha	106 Sg	107 Ns	108 Hs	109 Mt									

TOP ï PRIMARY or SURFACE DRIERS
Oxidation catalysts that act at the top of the coated film.

THROUGH DRIERS
Oxidation catalysts that ensure the uniformity of the through drying to the entire body of the coated film.

AUXILIARY DRIERS
These metal carboxylates have pure oxidation action on their own but play a very important synergetic role to the action of other drying catalysts as well.

ORGANOMETAL produce also special additives for coatings as:

- Anti-skining Agents
- Defoamers of emulsion paints



PRIMARY DRIERS

COBALT

MANGANESE

IRON



Cobalt

Co

Cobalt driers are blue-violet low viscosity solutions of cobalt metallic soap with a synthetic fatty acid.

Properties
Cobalt is the most important and most widely used drier. It is a primary oxidation catalyst that acts on top of the coated film. For this reason it is known as Surface or Top drier. Cobalt does not discolour white paints due to addition in small amounts and due to the fact that its deep blue colour counteracts with the yellow of the oils and resins so finally enhances the whiteness of the paint.

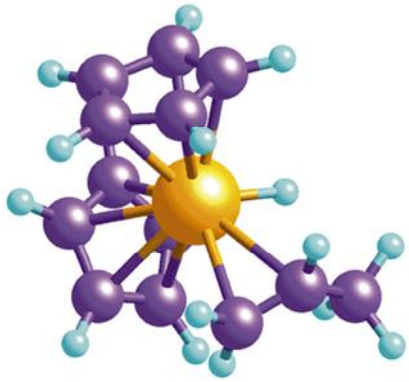
Applications
- Drier for solvent and water based coatings.
  Cobalt when is used alone has the tendency to cause surface wrinkling. Therefore, it is often used in combinations with other driers such as Calcium, Manganese and Zirconium.
  Cobalt driers should preferably be added as near as possible to the end of the manufacturing process.
- Printing Ink Drier.
- In solid phase Cobalt carboxylates are used as rubber adhesion promoters.
- Polyester catalyst promoter.

Driers can be produced with various fatty acids such as Neodecanoates, Tallates and other synthetic acids. Depending on the fatty acid that is used, the drier has different loss-of-dry upon extended storage. Driers based on octanoic acid seem to be the most stable through a long period of storage.

The drying activity of cobalt driers can be boosted with the use of special chelating agents like 1,10 phenanthroline or 2,2 bipyridyl. These agents, when used in water alkyd systems, not only boost the dry action of cobalt, but they also prevent hydrolysis and stabilise the metal carboxylate.
These chelating agents are also available for further information please contact our technical department.

Product range for alkyd resins in solvent-borne coatings

ORGANO Co 12
ORGANO Co 10
ORGANO Co 6
ORGANO Co 5



Solvents: White spirit, D60, Toluene, Esters and Phthalates.

Product range for alkyd resins in water-bornecoatings

ORGANO Co WB

Solvents: White spirit, D60,

Solubility: Water miscible, soluble in organic solvents.

Packaging

ORGANO Co 12	Iron drum of 200kg, plastic drums of 50kg and 25kg
ORGANO Co 10	Iron drum of 200kg, plastic drums of 50kg and 25kg
ORGANO Co 6	Iron drum of 180kg, plastic drums of 50kg and 25kg
ORGANO Co 5	Iron drum of 180kg, plastic drums of 50kg and 25kg
ORGANO Co WB	Iron drum of 200kg, plastic drums of 50kg and 25kg

Storage stability: Twelve months in original container at temperatures between -15 °C to 35 °C.

Typical loading for coatings: 0.05% - 0.1% pure metal on resin solid.
Typical loading for polyesters: 0.02 to 0.04% metal on vehicle solid.

Manganese

Mn

Manganese driers are high viscous red ï brown solutions of manganese metallic soap with 2-ethyl hexanoic acid in mineral spirits or esters.

Properties
Manganese is a primary drier. Due to its intermediate activity it promotes surface and through drying. When used alone tends to produce films that are too hard. For this reason it is basically used in enamels in combinations with lead, in outside paints and in floor finishes where hard and durable films are required.
The main disadvantage of manganese driers is that due to their dark colour, they stain or discolour white and light finishes.
Moreover, manganese driers promote initial and long term yellowing. However, the problem of yellowing can be avoided with the use of pale manganese which is lighter in colour. In pale manganese the metal is being present in a lower positive oxidation state and its catalytic action is different. This product is also the most prominent for cobalt substitution.
Finally, manganese gives good results in low temperatures drying and in high humidity conditions.

Applications

- Manganese is an active drier commonly used in combination with other driers such as Cobalt, Lead and Zinc.
- Printing inks drier.
- Combustion catalyst.

EPA (USA Environmental Pollution Agency) tested more than two hundred organic additives for the reduction of the unburned material and the total emission of gases in combustion.
Manganese soap and other metals such as Cobalt, Calcium, Iron and Cerium appear to be the most appropriate combustion catalysts. The minimum required additive dosage appears to be 0.5 moles of active metal per ton of fuel.

Product range for alkyd resins in solvent-borne coatings

ORGANO Mn 10
ORGANO Mn 8
ORGANO Mn 6

Solvents: White spirit, D60, Esters

Solubility: Insoluble in water, soluble in organic solvents.

Product range for alkyd resins in in water-bornecoatings

ORGANO Mn WB

Solvents: White spirit, D60.

Solubility: Water miscible, soluble in organic solvents.

Packaging

ORGANO Mn 10	Iron drum of 200kg, plastic drum of 50kg.
ORGANO Mn 8	Iron drum of 180kg, plastic drum of 50kg.
ORGANO Mn 6	Iron drum of 180kg, plastic drum of 50kg.
ORGANO Mn WB	Iron drum of 200kg, plastic drum of 50kg.

Storage stability: Twelve months in original container at temperatures between 0 °C to 35 °C.

Dosage: 0.05% - 0.1% pure metal on resin solid.

Iron

Fe

Ferrous and ferric carboxylates are medium viscous dark red ï brown solutions of the metallic soap with 2-ethyl hexanoic acid in mineral spirits.

Iron is an active drier only at elevated temperatures while it exhibits very poor drying activity at room temperature.
Therefore, it is used extensively as a primary drier in baking ï stoving systems where it provides durable flexible and high gloss films.
When used in air drying alkyd coatings it improves through drying.
The main disadvantage of iron is its dark colour; its high staining power and yellowing effect limit its use in dark coloured baking systems.
Iron carboxylates also function as pigment wetting agents and help the fast and better grinding of carbon black pigments.
Finally, it can be used as an adhesion promoter in the anti-corrosion coatings and as a replacement of lead in aluminium paints.

Iron complexes are very potent redox catalysts in aqueous solutions unlike solvent based alkyds because in polar solvents and ambient conditions Fe^{+3} is easily reduced to the necessary hydro peroxide initiator compounds.

Iron can also substitute manganese as combustion catalyst, especially at ferric state, exhibiting high efficiency with much lower toxicity.

Applications

- Active drier in baking systems.
- Through drier for air-drying alkyds and for aluminium pastes.
- Printing inks drier.
- Combustion catalyst.

Product range
ORGANO Fe 8
ORGANO Fe 6

Solvents: mineral spirits.

Solubility: Insoluble in water, soluble in organic solvents.

Packaging

ORGANO Fe 8	Iron drum of 200kg, plastic drum of 50kg.
ORGANO Fe 6	Iron drum of 180kg, plastic drum of 50kg.

Storage stability: Twelve months in original container at temperatures between -5 °C to 35 °C.

Typical loading for coatings: 0.03% - 0.1% pure metal on resin solid.
Typical loading for stoving: 0.03 to 0.04%

THROUGH DRIERS

LEAD

ZIRCONIUM

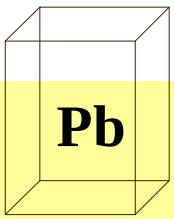
STRONTIUM

LITHIUM

POTASSIUM



Lead



ORGANO Pb is a high viscous yellow coloured solution of lead metallic soap in mineral spirit.

Properties
Lead is an auxiliary drier known as a ` through drier ´. It functions throughout the entire thickness of the coated film and via this property the flexibility, toughness and durability of the film are increased. Lead also improves the water and salt resistance of the film making it useful to rust preventive coatings. Lead driers can give rise to precipitation in the film, which may then cause haziness and loss of gloss. This effect can be minimized when lead is used in combination with calcium drier that acts as emulsifier and improves the pigment dispersing and wetting properties.

Toxicity of Lead
Because of leadûs high toxicity, a great effort has been made to eliminate this metal from all formulations but so far it has not been found an equal substitute to imitate its performance.
The most widely used metals that could replace lead driers are zirconium and strontium.
The metallic soaps absorbed in the organism decompose through enzymatic hydrolysis to the cationic metal and the fatty acid. For this reason the toxicity of metallic soaps is directly related to the toxicity of the free cationic metal.
Lead is a highly toxic metal that in cases of long - term intake may cause circulatory problems by affecting the biosynthesis of hemoglobin.
In some cases this effect may be irreversible. The symptoms are anemia, fatigue and lose of weight.
The EEC requires by its members all packing of non - industrial paints that contain more than 0.25% Pb should be labeled with warning labels.

Application
- Lead is normally used in combination with other driers such as cobalt, calcium and manganese.
- There are limitations in the use of lead in aluminum paints.

Product range

ORGANO Pb 33
ORGANO Pb 30
ORGANO Pb 24

Solvents: White spirit, D60

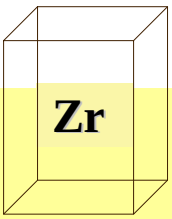
Solubility: Insoluble in water, soluble in organic solvents.

Packaging
ORGANO Pb 33 Iron drum of 250kg, plastic drum of 65kg.
ORGANO Pb 30 Iron drum of 250kg, plastic drum of 65kg.
ORGANO Pb 24 Iron drum of 200kg, plastic drum of 50kg.

Storage stability: One year in original container at temperatures between -15 °C to 35 °C.

Dosage: 0.08% - 0.6% pure metal on resin solid.

Zirconium



Zirconium driers are slightly yellow low viscosity solutions of zirconium metallic soap and 2-ethyl hexanoic acid in mineral spirit or esters.

Properties
Zirconium driers became widely used due to the legislation restriction for lead. Zirconium, similarly to lead and rear earth metals, serves as a through drier and it is used in combination with cobalt, calcium and manganese driers.Unlike lead, zirconium is a poor pigment wetting and dispersing agent, and therefore, the combination with calcium is necessary. Zirconium drier has a very low toxicity while the maximum drier performance can be best determined experimentally.
Taking into account the toxicity of lead compounds, it has to be considered that the use of lead based paint driers will eventually be forbidden in near future.
Although zirconium driers have been generally accepted as a replacement of lead driers, there are still some problems with respect to its yellowing and its performance under critical conditions like temperatures lower than ten degrees Celsius.

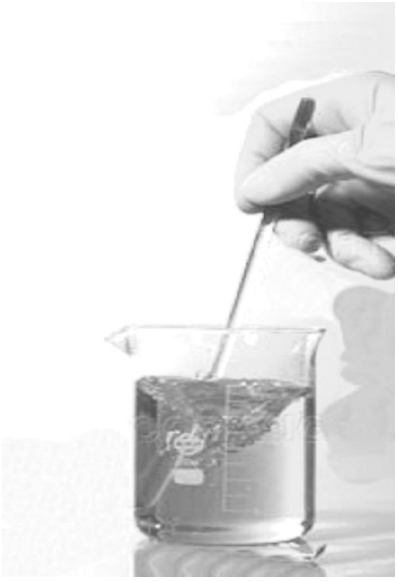
Application
- In lead free paints.
- In combination with driers such as Cobalt, Calcium and Manganese.

Product range for alkyd resins in solvent-borne coatings

ORGANO Zr 18
ORGANO Zr 12

Solvents: White spirit, D60, Esters

Solubility: Insoluble in water, soluble in organic solvents.



Product range for alkyd resins in water-borne coatings

ORGANO Zr WB

Solvents: White spirit, D60, Esters

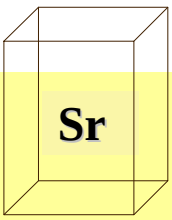
Solubility: Water miscible, soluble in organic solvents.

Packaging
ORGANO Zr 18 Iron drum of 200 kg, plastic drum of 50kg.
ORGANO Zr 12 Iron drum of 200 kg, plastic drum of 50kg.
ORGANO Zr WB Iron drum of 200 kg, plastic drum of 50kg.

Storage stability: One year in original container at temperatures between -15 °C to 35 °C.

Dosage: 0.1% - 0.3% pure metal on resin solid.

Strontium



Strontium drier is a medium viscosity clear solution of strontium metallic soap in mineral spirit.

Properties
Strontium is another alternative for lead after the latter's legislation restriction, but it is not widely used as drier yet. Strontium seems to overcome the insufficient zirconium performance and appears to be the most prominent choice for lead substitution.
Strontium promotes through drying and unlike zirconium it does not cause yellowing. In addition, it is a good pigment - wetting and dispersing agent preventing haze and wrinkling.
The toxicity of strontium driers is comparable to calcium while its maximum drier performance can be best determined experimentally. The addition of accelerators increases its efficiency even further.

Application
- In lead free paints.
- In combination with driers such as Cobalt, Calcium and Manganese.
- In high solids systems.

Product range for alkyds in solvent-borne coatings

ORGANO Sr 10

Solvents: White spirit, D60, Esters

Solubility: Insoluble in water, soluble in organic solvents.

Product range for alkyd resins in water-borne coatings

ORGANO Sr WB

Solvents: White spirit, D60

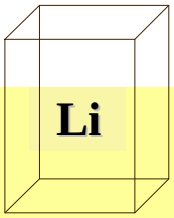
Solubility: Water miscible, soluble in organic solvents.

Packaging: Iron drum of 200kg, plastic drum of 50kg.

Storage stability: One year in original container at temperatures between -15 °C to 35 °C.

Dosage: 0.2% - 0.5% pure metal on resin solid.

Lithium



Lithium drier is a low viscosity clear solution of lithium soap in mineral spirit.

Properties
Lithium, like lead and rear earth metals, serves as a through drier.
It is used in combination with cobalt, manganese and calcium driers.
The use of lithium as drier is more often since the legislation restriction for lead.
It is a good pigment-wetting and dispersing agent and it can be
used as a loss-of-dry agent in combination with calcium.
In high solid coatings it promotes the through drying and reduces the wrinkling effect.
It is water soluble and it is used as through drier for water bore alkyd resins.
Lithium is also very effective at low temperatures.

Application
- In lead free paints.
- Through drier for water borne alkyd resins.
- In combination with other driers such as Cobalt, Calcium and Manganese.

Our product range

ORGANO Li 2

Solvents: White spirit, D60, Esters

Solubility: Water miscible, soluble in organic solvents.

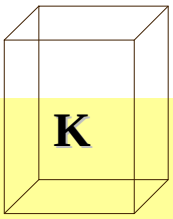
Packaging

Net drum weight 190 kg.

Typical loading: 0.01% to 0.02 % metal on vehicle solid.



Potassium



Potassium is a slightly yellow clear solution of potassium soap with medium viscosity.



Properties
Potassium serves as a through drier.
It is basically used in combination with cobalt and manganese.
It assists very efficiently the incorporation of cobalt and manganese driers in water.
It is a good pigment-wetting and dispersing agent and in combination with calcium it can be used as a loss-of-dry agent.
In high solid coatings it promotes through drying and reduces the wrinkling effect.
It is water soluble and is used as through drier for water bore alkyd resins.
It is very effective at low temperatures as well.

Potassium is also advantageous as synergist accelerator with cobalt in unsaturated polyester resins. It reduces the ὰpinkingò effect of cobalt while alters the gel time and the exothermic temperature peak at the curing.

Apart from potassium, copper carboxylates can also be used with the same results to unsaturated polyester resins acting as synergists.
Organometal offers copper bis 2-ethyl hexanoate in white spirit with 8% metal content under the trade name **ORGANO Cu 8**.

Application

- In lead free paints.
- Through drier for water borne alkyd resins
- It is very efficient in combination with driers such as Cobalt and Manganese.
- Catalyst to the curing of polyurethane and polyester resins.

Our product range

ORGANO K 15

Solvents: Butyldiglycol

Solubility: Water soluble, soluble in organic solvents.

Packaging
Net weight of plastic drum 200 kg,
Net weight of IBC 1000kg.

Typical loading for paints: 0.05% to 0.2 % metal on vehicle solid.

Typical loading for polyesters: 0.01% to 0.02% metal on vehicle solid.
Replace like for like per weight of cobalt.

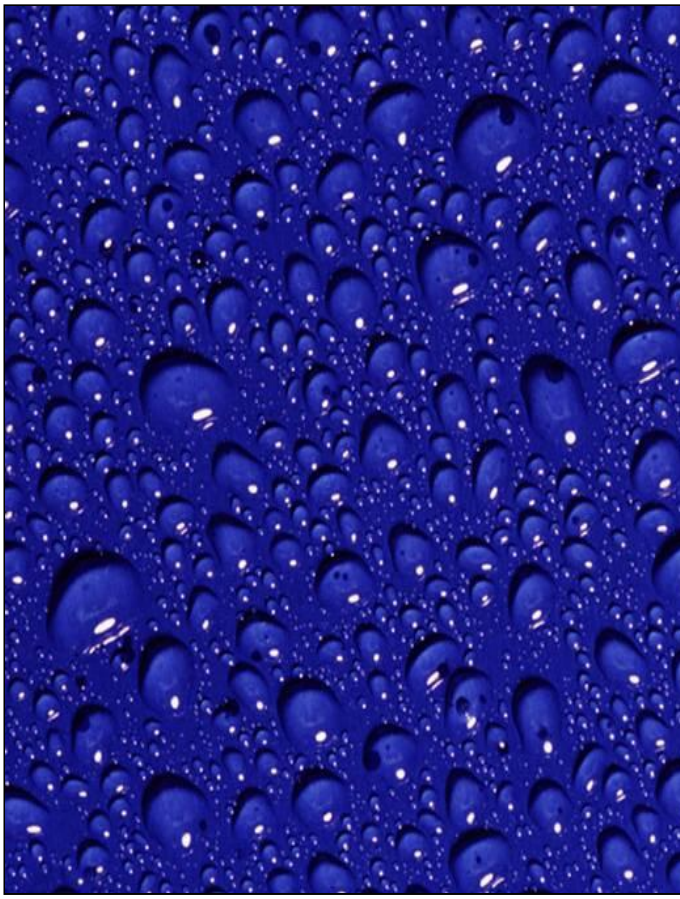


AUXILIARY DRIERS

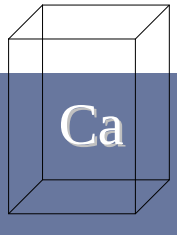
CALCIUM

BARIUM

ZINC



Calcium



Calcium driers are clear colourless medium viscosity solutions of calcium metallic salt with 2- ethyl hexanoic acid in mineral spirits or esters.

Properties
Calcium carboxylates are auxiliary driers that promote the activity of other driers and especially of through ï driers such as lead and zirconium.
Therefore, they show poor drying action on their own.
It is possible to replace a part of lead with a large amount of calcium to prevent the precipitation of lead and maintain the drying efficiency. Neutral calcium driers also promote pigment wet and dispersion, improve hardness and gloss, while reduce skinning.
Finally calcium is preferentially adsorbed by drier adsorbing pigments and consequently minimises the dry activity loss of the system.
Calcium is the least toxic metal and it is used in paints where lead should be avoided.
Organometal mainly manufactures Neutral calcium driers with metal percentages 4 and 5.
Calcium 10% is an overbased product consisted of 4% calcium carboxylate and 6% CaCO3.
Calcium 10% has insufficient emulsifying properties and storage stability and for this reason the use of Calcium 5 % Neutral is preferred and recommended.

Applications
Calcium drier is normally used in combination with other driers such as Cobalt, Lead, Manganese and Zinc. It is successfully used to lead free drying mixtures and improves the drying rate of Cobalt and Strontium.

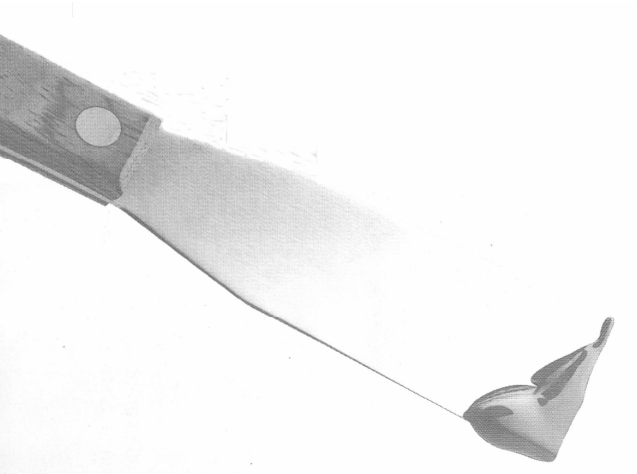
Product range for alkyd resins in solvent-borne coatings

ORGANO Ca 5N
ORGANO Ca 4N
ORGANO Ca 10

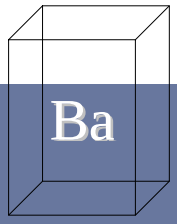
Solvents: White spirit, D60, Esters

Solubility: Insoluble in water, soluble in organic solvents.

Packaging: Iron drum of 180 kg, plastic drum of 50kg.



Barium



Barium driers are yellowish medium viscosity solutions of barium soap in organic solvents.

Properties
Barium is an auxiliary drier; it keeps the paint film open and acts in conjugation with other driers. Therefore, it shows poor drying action by itself.
In combination with cobalt it promotes the through - drying.
Barium drier is an excellent pigment wet and dispersion agent because it is selectively adsorbed by drier adsorbing pigments.
For this reason it is very important to be added at the pigment grinding stage.
The wetting and dispersing properties of the barium drier improve gloss of the paint and minimize the dry activity loss of the system.
Barium is also used in water-borne alky resins instead of calcium.

Applications

- Barium drier is normally used in combination with other driers such as cobalt and manganese.
- It is successfully used to lead free drying paints.
- Loss of dry agent.
- Water borne paint
- Reducing pinking effect of cobalt in unsaturated polyester resins.

Product range for alkyd resins in solvent-borne coatings

ORGANO Ba 12,5

Solvents: White spirit, D60, Esters.

Solubility: Insoluble in water, soluble in organic solvents.

Product range for alkyd resins in water-borne coatings

ORGANO Ba 10 W

Solubility: Water miscible, soluble in organic solvents.

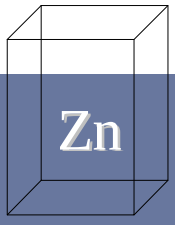
Solvents: White spirit, D60

Packaging: Iron drum of 200 kg, plastic drum of 50kg.

Storage stability: One year in original container at temperatures between -15 °C to 35 °C.

Typical loading: 0.1% to 0.25 % metal on vehicle solid.

Zinc



ORGANO Zn is a low viscosity yellow coloured clear solution of zinc metal-carboxylate in mineral spirits or methyl esters.

Properties
Zinc is an auxiliary drier. The primary function of zinc drier is to keep the film surface open and promote the oxidation by blocking instantly cobalt activity and providing enough time for more atmospheric oxygen to diffuse in the entire film.
This property promotes hardening and prevents surface wrinkling increase drying time.
In addition, zinc also acts as wetting and dispersing agent and due to its light colour it does not discolour coatings.

Applications

- Drier for solvent and water - borne coatings
- As opposed to cobalt, it is important to be incorporated early in the formulation because it reduces the time of mixing and grinding and acts as a loss-of-dry agent.



Product range for alkyd resins in solvent-borne coatings

ORGANO Zn 10
ORGANO Zn 8

Solvents: White spirit, D60, Esters.

Solubility: Insoluble in water, soluble in organic solvents.

Product range for alkyd resins in water-borne coatings

ORGANO Zn WB

Solvents: White spirit, D60

Solubility: Water miscible, soluble in organic solvents.

Packaging: Iron drum of 190 kg, plastic drum of 50kg.

Storage stability: One year in original container at temperatures between -15 °C to 35 °C.

Dosage: 0.03% - 0.5% pure metal on resin solid.

ORGANOMETAL

DRIERS FOR SOLVENT BASED COATINGS

PRODUCT	METAL CONTENT %	COLOUR	SPECIFIC DENSITY 20°C g/cm^3	VISCOSITY	SOLIDS %
COBALT					
ORGANO Co5	5	Blue/Violet	0.850	A	29
ORGANO Co6	6	Blue/Violet	0.890	A	35
ORGANO Co10	10	Blue/Violet	0.980	H	59
ORGANO Co12	12	Blue/Violet	1.050	J	71
MANGANESE					
ORGANO Mn 8	8	Brown	0.980	O	60
ORGANO Mn 10	10	Brown	1.010	X	72
CALCIUM					
ORGANO Ca 4N	4	Gardner 1	0.880	S	46
ORGANO Ca 5N	5	Gardner 2	0.890	W	52
ORGANO Ca 10	10	Gardner 2	0.960	C	52
BARIUM					
ORGANO Ba 12.5	12.5	Gardner 3	0.910	B	37
ZINC					
ORGANO Zn 8	8	Gardner 3	0.890	A	43
ORGANO Zn 10	10	Gardner 4	0.930	C	54
LEAD					
ORGANO Pb 24	24	Gardner 3	1.100	G	56
ORGANO Pb 30	30	Gardner 4	1.150	V	72
ORGANO Pb 33	33	Gardner 4	1.280	X	78
ZIRCONIUM					
ORGANO Zr 12	12	Gardner 1	0.935	A	32
ORGANO Zr 18	18	Gardner 1	1.040	J	48
LITHIUM					
ORGANO Li 2	2	Gardner 2	0.905	F	80
POTASSIUM					
ORGANO K 15	15	Gardner 3	1.000	H	70
STRONTIUM					
ORGANO Sr 10	10	Gardner 1	0.950	F	55
COPPER					
ORGANO Cu 8	8	Green	0.950	C	45

ORGANOMETAL

DRIER FOR WATER BASED COATINGS

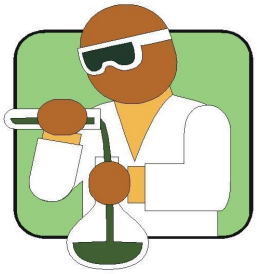
PRODUCT	METAL CONTENT %	COLOUR	SPECIFIC DENSITY 20°C g/cm^3	VISCOSITY	SOLIDS %
COBALT					
ORGANO CoWB	10	Blue/Violet	0.990	H	70
MANGANESE					
ORGANO Mn WB	9	Brown	1.000	X	75
BARIUM					
ORGANO Ba WB	10	Gardner 3	0.900	C	60
ZINC					
ORGANO Zn WB	9	Gardner 4	0.950	H	59
ZIRCONIUM					
ORGANO Zr WB	18	Gardner 3	1.200	B	70
LITHIUM					
ORGANO Li 2	2	Gardner 2	0.905	F	80
POTASSIUM					
ORGANO K 15	15	Gardner 3	1.000	H	70
STRONTIUM					
ORGANO Sr WB	9	Gardner 1	0.950	G	65

Calculation method for determination of drier addition level

$$\text{gr of drier required} = \text{Total gr of solid resin} \times \frac{\%\ \text{Metal required}}{\%\ \text{Metal in drier}}$$

ORGANOMETAL

COMBINATIONS OF DRIERS



PRODUCT	TOTAL Metal content %	Colour	N.V. %	Density 20°C g/cm3	Recommended dosage %
ORGANOMIX -18 Co, Zr,Zn,Ca	10,4	Blue- Violet	54	0.995 ï 1.010	3 ï 6
ORGANOMIX -35 Co,Zr, Ca	9	Blue- Violet	50	0.925 ï 0.945	5 ï 7
ORGANOMIX -36 Co,Zr, Ca	10	Blue- Violet	52	0.945 ï 0.965	4 ï 7
ORGANOMIX -40 Co,Sr,Ca	9	Blue- Violet	55	0.925 ï 0.935	5ï 8
ORGANOMIX -47 Co, K	11	Blue- Violet	57	0.955 ï 0.960	1 ï 2
ORGANOMIX -69 Co,Zr	15	Blue- Violet	62	1.030 ï 1.050	4 ï 7

➫ **The amount of each mixture added in the total formulation has to be calculated by using the recommended drier percentage based on the resin solid weight.**

Benefits of using combined drier mixtures

- Storage stability- avoiding degradation resulting in constant drying performance.
- Simplified handling and dosing.
- Stock only one drier ï easier logistic control ï reserve funds.
- Lower VOC - avoid addition of unnecessary extra solvent.

ÿ One disadvantage of using mixtures of driers is that these are often been absorbed from pigments or other components of the system leading to loss-of-dry.
In order to avoid this effect it is recommended to use an efficient wetting or loss-of-dry agent like zinc or calcium neutral driers before the addition of the mixture drier. These additives would be preferably absorbed by the pigments or by any other complexation substances.



PAINT ADDITIVES

DEFOAMERS
FOR EMULSION PAINTS

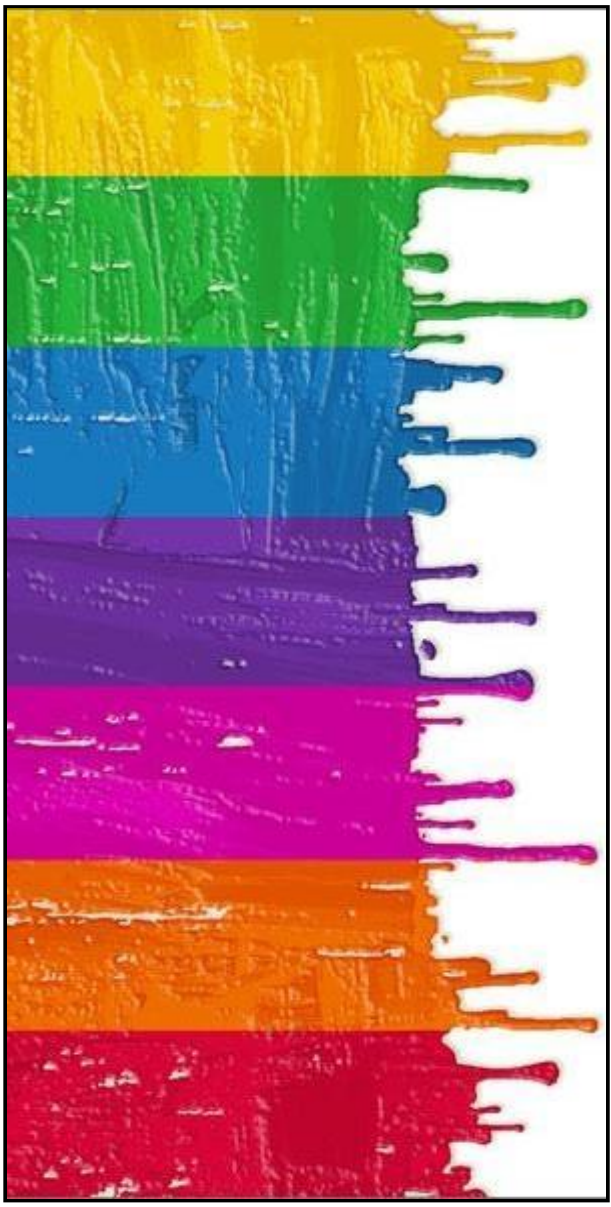
ANFOAM S
MINERAL OIL BASED

ANFOAM EM
MINERAL OIL BASED

ANFOAM
NON MINERAL OIL BASED

ANTI-SKINNING AGENTS

ANTISKIN 100
100% MEKO



Trade name: Anfoam S

Type of application: Anfoam S is a very effective defoamer for the emulsion paint manufacture.

Composition: Dispersion of hydrophobic components, esters and Hydrophobic silica in mineral oil.

Activity: 100% Non containing water. APEO free.

Typical Properties

Appearance	Liquid
Viscosity cSt 25 °C	120 - 160
Odour	Characteristic (Mineral oil)
Colour	Light Yellow
Non - Volatile %	100
Density 20°C g/cm^3.	0.870 - 0.890
Initial Boiling Point °C	>260
Flash point °C	190
Solubility	In organic solvents Dispersed in water
Solidifies at	> -20

Recommended levels

From 0.1 to 0.35% on the finished paint

Application

Normally the defoamer is added undiluted at the beginning of the paint mixing cycle in order a homogenous dispersion and de-aeration to be obtained.
In cases of long - term storage stir well before the application.

Trade name: Anfoam EM

Type of application: Anfoam EM is a very effective defoamer for the emulsion paint manufacture.

Composition: Emulsion of special esters and hydrophobic components
Do not contain Silicone.

The emulsion is free from phenol ethoxylates.

Typical Properties

Appearance	Liquid
Odour	Mild of natural oil
Colour	White
Non - Volatile %	50
Density at 20°C g/cm^3.	0.95
Initial Boiling Point °C	>100
Flash point °C	> 190
Viscosity mPas at 25 °C	110 - 170
Solubility	In organic solvents Dispersed in water
Solidifies at	> 0

Recommended levels

From 0.1 to 0.5% on the finished paint

Application

Normally the defoamer is added undiluted at the beginning of the paint mixing cycle in order a homogenous dispersion and de-aeration to be obtained.
In cases of long - term storage stir well before the application.

Trade name: Anfoam

Type of application: Anfoam is based on Green chemistry, produced completely from renewable recourses. It is mineral oil and silicone free very effective defoamer for the emulsion paint manufacture.

Composition: Emulsion of special esters and hydrophobic components.

The emulsion is free form alkyl or phenol ethoxylates
Contains food grade preservatives and antioxidants.

Typical Properties

Appearance	Liquid
Odour	Mild of natural oil
Colour	White
Non - Volatile %	55
Density at 20°C g/cm^3.	0.97
Initial Boiling Point °C	>100
Flash point °C	> 375
Viscosity mPas at 25 °C	1200- 1600
Solubility	In organic solvents Hardly dispersed in water
Solidifies at	> -5

Recommended levels

From 0.1 to 0.5% on the finished paint.
Optimal dosage levels are determined through series of tests.

Application

Normally the defoamer is added undiluted at the beginning of the paint mixing cycle in order a homogenous dispersion and de-aeration to be obtained.
Storage and transport between 0 °C and 40 °C
In cases of long - term storage or temperature range is exceeded stir well before the application.

Trade name: **ANTISKIN 100**

Chemical Name: Methyl - Ethyl - Ketoxime

Cas No. : 96-29-7

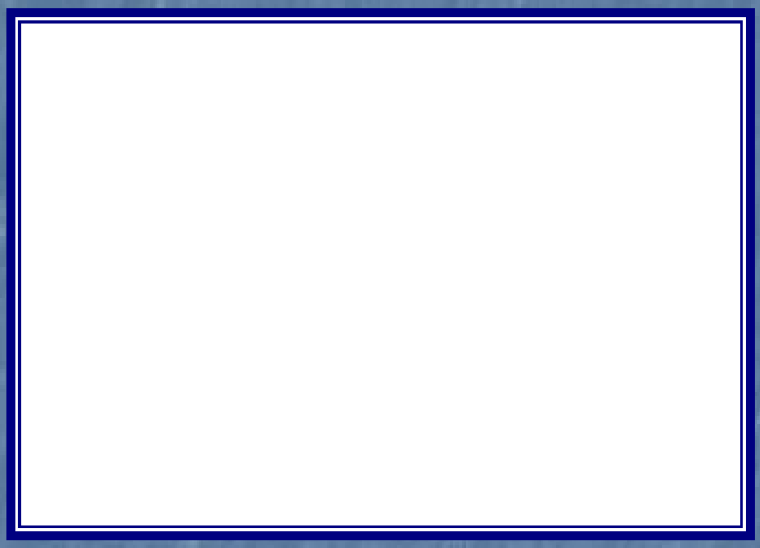
Specifications

Appearance	Clear Liquid
Viscosity mPa.s 20 °C	Max. 20
Odour	Characteristic (ketone)
Density 20°C g/Cm^3	0.925 - 0.930
Reflection Intex	1.442 ï 1.443
Vapour Pressure mbar	3.5
Explosion Limits Vol%	**Lower** 1.9
	Upper 12.3
Ignition Temperature °C	315
Boiling Point °C	152
Flash point °C	61- 62
Solidifies at °C	>-10

Solubility: In water 114 g/l and other polar solvent

Storage Stability: Keep containers tightly sealed at temperatures between ï 20 °C to 50 °C. Do not overheat to avoid thermal decomposition

Packaging: Iron drum of 190 kg, plastic pail of 30kg.



THESI NTABASI INOFITA VIOTIAS
P.O. BOX 26 INOFITA 32011GREECE
Tel: 0030 2262030982 Fax: 0030 2262056646
Web Site: http://www.organometal.eu
E-Mail: info@organometal.gr