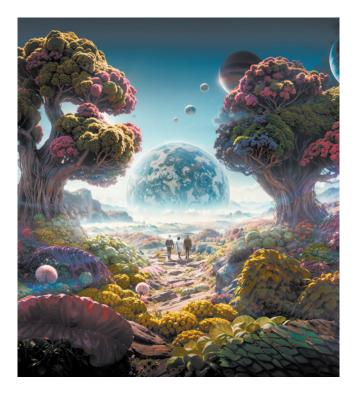
# WE GO BEYOND TO FORMULATE THE FUTURE

**PRODUCT REFERENCE GUIDE** 





### Your formulation is our focus.

With our innovative solutions for coatings, paints, printing inks and adhesives not only do we help our customers to overcome challenges, but we also give them significant advantages to successfully grow their business.

We go beyond our own products by putting your formulation at the center of all our activities. Our experts are always curious to come up with new ideas to improve existing formulations, develop new ones and ultimately optimize the coating itself.

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### **Coating Additives**

The Coating Additives business line supplies its customers with optimal solutions in the paints, coatings and printing ink sectors and supports them with the production of resource-efficient coatings. The business line bundles a diverse product portfolio for the coatings industry, like additives, co-binders, matting agents, fumed silica, specialty resins and nanoresins.

Product name	Additives
ACEMATT°	Precipitated and thermal silica matting agents for gloss reduction and haptic properties
AERODISP®	Dispersions based on AEROSIL® fumed silica for rheology control and pigment stabilization for waterborne coatings
AEROSIL®	Fumed silica for rheology control, pigment stabilization, free flow, reinforcement and improved corrosion resistance for solvent, waterborne, UV, and powder coatings
AEROXIDE®	Fumed aluminium oxide for powder coatings to improve free flow properties
AIRASE®	Defoamers and deaerators for waterborne applications, each formulated to provide optimum defoaming and compatibility
CARBOWET®	Effective wetting and surface tension reduction additives with varying degrees of emulsification and stabilization
DYNOL™	Superwetting surfactants for the most difficult to wet surfaces
SIPERNAT®	Synthetic amorphous silicates for replacement of ${\rm TiO}_2$ and specialty silica for improvement of film properties
SPHERILEX®	Spherical amorphous precipitated silica for im- proving the mechanical resistance of coatings
SURFYNOL®	Range of multi-functional surfactants and defoamers including low foam dynamic wetting agents, unique molecular defoamers, and specialty surfactants
TEGO <sup>®</sup> Airex	Prevents air inclusions and pinholes in waterborne, solventborne, and radiation-curing coatings
TEGO° ColorAid	Compatibilizers to optimize incorporation of pigment concentrates in base paints
TEGO <sup>®</sup> Dispers	Promotes pigment wetting and stabilization and prevents floating, flooding and settling of pigments

# **Coating Additives** – continued

Product name	Additives – continued	
TEGO <sup>®</sup> Foamex	Prevents foam formation in waterborne coatings and printing inks	
TEGO° Flow TEGO° Glide	Improves flow/leveling, slip and scratch resistance. Prevents cratering, pigment flooding and floatation	
TEGO° GUARD	Functional protection agents designed to deliver additional protective properties to paints and coatings.	
TEGO <sup>®</sup> Humectant	Humectant for colorants, minimized influence on coatings properties	
TEGO <sup>®</sup> Phobe	Used to make hydrophobic waterborne exterior paints. Special products for other systems are available	
TEGO <sup>®</sup> Protect	Anti-graffiti and easy-to-clean additives for polyurethane coatings	
TEGO <sup>®</sup> Rad	Crosslinkable, acrylate additives which improve slip, substrate wetting, scratch resistance and leveling in energy-curable formulations	
TEGO <sup>®</sup> THERM	Microporous silica-based products with superior thermal insulation performance and waterborne silicone-based binder with excellent heat stability.	
TEGO <sup>®</sup> Twin TEGO <sup>®</sup> Wet	Substrate wetting and anti-cratering additives	
TEGO° ViscoPlus	Polyurethane thickeners for waterborne coatings providing different rheology profiles	
ZETASPERSE®	Dispersants providing effective stabilization of pigments and particles in aqueous systems	

Product name	Specialty binders
SILIKOFTAL®	Silicone-polyester resins which provide heat and weathering resistance, low surface tension, low thermoplasticity, high flexibility, and good pigmentability
SILIKOPHEN®	Methyl and phenyl-methyl silicone resins which provide corrosion protection and heat stability up to 650 °C
SILIKOPON®	Silicone-epoxy hybrid resins that are the basis for isocyanate-free, air-drying, 2K anti-corrosion top coats

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Product name	Specialty binders – continued
SILIKOPUR®	Waterborne, silicone-modified 1K polyurethane dispersion. Flexible coating resin for leather, wood, plastic, rubber, and metal
SILIKOTOP®	Low-viscosity, isocyanate-crosslinking silicone polyester resins used for corrosion protection in top coat applications
TEGOMER®	Building blocks

Product name	Nanoresins
ALBIDUR®	Silicone elastomer particles to modify coatings to improve fracture toughness and release properties without affecting the glass transition temperature of the cured formula
NANOCRYL° NANOPOL°	Liquid silica nanocomposites for surface hard- ness and scratch/abrasion resistance of coatings without impairing transparency or gloss

Product name	Co-binders
TEGO° AddBond	Polyester co-binders which improve the adhesion on various substrates and corrosion resistance
TEGO° VariPlus	Widely compatible co-binders that increase solids content and accelerate touch drying while improving hardness, gloss, and film build

### Contact

### **Coating Additives**

coating-additives@evonik.com www.coating-additives.com

Please scan this QR Code to find a suitable contact partner at Evonik or visit **www.coating-additives.com** 



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# Crosslinkers

Crosslinkers offers a wide variety of isocyanates and diamines to the coatings market to make highly functional, chemically resistant, non-yellowing urethane resins and epoxy hardeners. We also offer new, non-isocyanate based technologies as well as new innovations for the powder coatings industry.

Product name	Applications
VESTANAT <sup>®</sup> IPDI VESTANAT <sup>®</sup> H <sub>12</sub> MDI VESTANAT <sup>®</sup> TMDI	Aliphatic diisocyanates for PUDs, UV oligomers, prepolymers, and elastomers
VESTANAT° T 1890	2K PUR coatings for automotive OEM; refinish, aircraft, plastic coatings etc.
VESTANAT <sup>®</sup> B series	Blocked polyisocyanates for ther- mosetting 1K PUR; excellent light stability and weather resistance
VESTANAT° B 1186A	Blocked polyisocyanate for ther- mosetting 1K PUR BPA free interior can coatings; FCN status for interior can coatings
VESTANAT <sup>®</sup> EP-M series VESTANAT <sup>®</sup> EP-MF series VESTANAT <sup>®</sup> EP-E series	Non-isocyanate, high scratch and chemical resistant 1K and 2K coatings systems, suitable for various substrates
VESTAGON <sup>®</sup> B series VESTAGON <sup>®</sup> BF series	PUR powder coating crosslinkers for exterior weatherable, anti-graffiti, lawn & garden, heat transfer, etc.
Oxyester T series	Flexible polyesters for 1K and 2K PUR systems; helps reduce viscosity and VOCs in refinish systems
VESTAMIN° A95	Combined strong hydrophilizing agent and chain extender for PUDs in one molecule
VESTAMIN <sup>®</sup> A139	Blocked diamine; accelerator for moisture cure PUR systems
VESTAMIN° IPD VESTAMIN° TMD VESTAMIN° PACM	Amines to formulate epoxy hardeners for ambient and heat cure; chain extender for PUR systems
VESTASOL®	Solvents for can and coil coatings, as well as ink applications

#### The new eCO Series for reduced CO, emissions

#### VESTASOL° IP eCO

#### 100% renewable carbon, mass balance

- improves levelling and gloss
- excellent solvent power
- interlayer adhesion
- high boiling

#### VESTASOL° IPD eCO

#### 90% renewable carbon, mass balance

- mechanical and chemical resistance
- surface quality
- low shrinkage and viscosity
- enhanced toughness

#### VESTANAT<sup>®</sup> IPDI eCO

#### 75% renewable carbon, mass balance

- · chemical resistance
- weatherability
- compatibility
- light stability



Contact Crosslinkers www.evonik.com/crosslinkers

Please scan this QR Code to find a suitable contact partner at Evonik or visit **www.evonik.com/crosslinkers-contact** 



### **Crosslinkers** – continued

As the world leader in high-quality, performance-oriented epoxy curing agents and modifiers, Evonik brings formulating solutions and products with unique performance advantages to epoxy systems. Formulators look to our expansive line of products across a breadth of chemistries, along with our technical support to achieve success with their most challenging projects.

#### Ancamide<sup>®</sup> Curing Agents

#### Amidoamine

Low viscosity; very good adhesion, particularly to concrete; good cure in humid conditions; modified amidoamines offer faster cure speed and improved chemical resistance

- civil engineering (flooring, concrete bonding and crack injection, tile grouts)
- · high-solids coatings

#### Polyamide

Excellent corrosion resistance; good flexibility and toughness with high viscosity; long pot life and good water resistance

 solventborne, two-pack (2K) primers and finishes (marine coatings, pipe and tank coatings)

#### Ancamine<sup>®</sup> Curing Agents

#### Aliphatic

High reactivity; fast cure at ambient or low temperatures; relatively moisture insensitive; good chemical/solvent resistance

- civil engineering (patch repair systems and flooring)
- high-solids coatings

#### Cycloaliphatic

Very good chemical resistance; cure at low temperatures under damp conditions; resistant to amine blush and water spotting; excellent color/color stability

- · solvent free and high-solids coatings
- flooring
- chemically-resistant linings and secondary containment

#### Ancarez<sup>®</sup> Waterborne Epoxy Resins

Specialty resins designed to deliver corrosion resistance when used with Evonik's waterborne curing agents (below)

- industrial coatings
- flooring

#### Anquamine<sup>®</sup>, Epilink<sup>®</sup> Low/No VOC Curing Agents

Waterborne curing agents that provide low VOC and low color, and are easy to apply and clean. Products with different cure speeds for use with various types of epoxy resins

- protective and industrial concrete coatings
- steel coatings
- · anti-corrosive primers

#### **Epodil®** Reactive Diluents

Viscosity reduction for ease of application; improved pigment/ filler wetting. Mono-, di-, and multifunctional diluents.

- metal coatings
- concrete coatings

#### Amicure<sup>®</sup> Polycarbamide Curing Agents

Designed for use with polyisocyanate resins; deliver coatings with rapid hardness development, excellent low temperature cure, good color and UV stability and excellent surface appearance • concrete coatings

concerce coorings

#### Hybridur<sup>®</sup> Waterborne Polymer Dispersions

For one part (1K) systems; rapid dry; low VOC; barrier properties; durability and UV resistance

- wood coatings (e.g. gymnasium floors)
- metal coatings
- concrete coatings
- hard plastic coatings (e.g. automotive interiors)



#### Contact

**Epoxy Curing Agents, Customer Service** www.evonik.com/crosslinkers-contacts

Please scan this QR Code to find further information or visit www.evonik.com/crosslinkers



## **Coating & Adhesive Resins**

The Coating & Adhesive Resins business line manufactures highquality binders based on polyesters and polymethacrylates for a broad spectrum of markets and applications. It includes solutions for coil coating and food packaging applications.

### **DYNAPOL**°

Polyester resins designed for can coating, coil coating & flexible packaging applications

- · Alternative to BPA based coatings
- High molecular weight
- High chemical resistance

#### **DEGACRYL® HS**

Polymers for heat seal coating formulations

- Universal and secure sealing
- Transparency with anti-fog
- Recyclable PET packaging

In addition, the Coating & Adhesive Resins business line supplies solutions for a multitude of other industries. From polymers for hot melts, to reactive sealants and synthetic waxes, they provide specially designed products for a wide variety of adhesive & sealant applications.

Product name	Applications
POLYVEST° (Polybutadiene)	Car doors, engine hoods, sound dampening, printing plates, defoamers, foams, printing inks, insulated glass sealants
VESTOPLAST° (APAO)	Raw material for hot melt adhesives for e.g. hygiene, automotive and woodworking applications
VESTOWAX° (FT Wax)	PVC lubricants, printing inks and coatings or as additive for hot melt formulations
DYNACOLL° (Polyester)	Bonding/lamination of car interiors; lamination for panel bonding and sandwich construction







Contact Coating & Adhesive Resins

Please scan this QR Code to find further information or visit www.evonik.com/designed-polymers



# **Specialty Methacrylates**

Evonik VISIOMER<sup>®</sup> Specialty Methacrylates comprise a broad portfolio of building blocks with a variety of functionalities, such as alkyl & aryl, ether & acetal, amino, ureido, and phosphate groups, plus a selection of di- and tri-functional crosslinkers.

Our collaborative approach helps you develop durable, sustainable coatings.

Product name	Applications
VISIOMER° HEMA-P	Provides superior adhesion to polar sub- strates and improves corrosion resistance. Enables transparent, aqueous, intumescent & flame retardant coatings.
VISIOMER <sup>®</sup> MPEG-MAs	Ensure low temperature stability and stable pigment dispersions.
VISIOMER <sup>®</sup> MEEU	Improves wet adhesion to polar substrates, scrub resistance, and corrosion protection.
VISIOMER® C18 PEG 1105 MA W	Improves sag resistance and anti-settling, helps control viscosity through associative thickening.



### **VISIOMER**<sup>®</sup>

Sustainable Methacrylates

VISIOMER® Terra sustainable monomers have reduced carbon footprints, low hazards and bio-contents up to 85%.



Our VISIOMER® Terra product range is continuously expanding. Life-cycle analyses are available for all VISIOMER® Terra products, demonstrating the carbon footprint reduction throughout the entire value chain.

Product name	Applications
VISIOMER® Terra IBOMA	71% bio-content. Provides scratch and weather resistance. Effective, low VOC comonomer that maintains gloss.
VISIOMER <sup>®</sup> Terra C17.4-MA	81% bio-content. Provides maximum hydrophobicity and resistance to water and polar media.
VISIOMER <sup>®</sup> Terra C13-MA	76% bio-content. Makes polymers significantly more hydrophobic, improving water and polar solvent resistance.

New developments	Applications
VISIOMER® Terra CARMA	84% bio-content. Provides oxidative secondary crosslinking and improves water resistance.
VISIOMER <sup>®</sup> Terra ISDMA	43% bio-content. Rigid, low-shrink crosslinker for core-shell emulsions.



New VISIOMER<sup>®</sup> eCO methacrylates are based on massbalanced raw materials from readily available feedstocks. They have a significantly lower carbon footprint than fossil-based equivalents. Contact us for more details.

### Contact

Specialty Methacrylates visiomer@evonik.com

Scan this QR code for access to our VISIOMER® ToolBox or visit **www.visiomer.com** 



# **Performance Intermediates**

Performance Intermediates offers a broad range of high-quality ingredients and additives which are also used for the paints and coatings industry.

Product name	Applications
1,3-Butadiene	1.3-Butadiene is used for the production of copolymers and styrene butadiene latex (SBL) for the paint industry as well as for the production of high solid styrene butadiene rubber (HSSBR), liquid polybutadiene (LPBD) and nitrile butadiene rubber (NBR) for the coatings industry
2-Propylheptanol	2-Propylheptanol (2-PH) is used in the production of 2-Propylheptacyrlate, which may be used for the manufacture of coatings
DRIVOSOL°	The DRIVOSOL <sup>®</sup> product family is used as a propellant in paint aerosols with various mixing ratios of the components n-Butane, Iso-Butane and Propane. The mixing ratio can individually be adapted to your requirements by flexible pressure settings in a range from 1.2 to 7.8 bar. Create your individual mix with our DRIVOSOL <sup>®</sup> Tuner: drivosol-tuner.evonik.com
ELATUR <sup>®</sup> CH	Diisononyl-cyclohexanoate (DINCH) is a plasticizer used for the manufacture of coatings, inks and colors
ELATUR <sup>®</sup> DPT	ELATUR® DPT (di(iso)-pentyl- terephthalate) is a new fast fuser for special PVC applications, like coatings flooring, wall coverings and films. It is especially effective when used in combination with ELATUR® CH
Isotridecyl alcohol	Isotridecyl alcohol (ITDA) can be used as and for the production of specialty solvents as well as specialty resins for coatings & inks
Tertiary-Butanol	Tertiary-Butanol (TBA) is offered in different qualities (pure and azeotrope) and is used in the production of hydroxyethyl cellulose, which is a thickener for dispersions, film- building agent for distempers and the main component of wallpaper paste
VESTINOL <sup>®</sup> 9	Diisononyl-phthalate (DINP), an INA-based plasticizer, used for the manufacture of coatings, inks and colors



#### Contact

Performance Intermediates c4-chemicals@evonik.com www.evonik.com/c4-chemicals



# **Functional Silanes**

Dynasylan<sup>®</sup> functional silanes are used as additives in coating formulations to boost adhesion, improve weathering and durability, and also change the surface properties of the coating. Our proprietary technologies include low VOC multi-functional oligomeric silanes, water-borne HYDROSIL series, ethyl polysilicate SILBOND<sup>®</sup> binders, stain repellent F-series and heavy metal-free corrosion protection SIVO<sup>®</sup> solgel binders. Dynasylan<sup>®</sup> is the solution for your next cutting-edge idea. Protectosil<sup>®</sup> products provide long-term protection for mineral-based substrates and are well-known as hydro- and oleophobizing agents, preventing corrosion, graffiti and other surface damaging effects.

Dynasylan*Adhesion promotion, crosslinking, surface modificationDynasylan*Adhesion promotion for water-based coating systemsDynasylan*Waterborne, adhesion promotionDynasylan*Cr-VI-free corrosion protectionDynasylan*Binder for inorganic zinc rich coatings, inorganic zinc rich paintsWater repellents , graffiti control, corrosion control (admixed and surface applied)	Product name	Applications
GLYEO   systems     Dynasylan°   Waterborne, adhesion promotion     HYDROSIL   Waterborne, adhesion promotion     Dynasylan°   Cr-VI-free corrosion protection     SIVO°   Cr-VI-free corrosion protection     Dynasylan°   Binder for inorganic zinc rich coatings, inorganic zinc rich paints     Water repellents , graffiti control, corrosion control (admixed and surface applied)	Dynasylan®	5
HYDROSIL Waterborne, adhesion promotion   Dynasylan* Cr-VI-free corrosion protection   Binder for inorganic zinc rich coatings, siLBOND* Binder for inorganic zinc rich coatings, inorganic zinc rich paints   Water repellents , graffiti control, corrosion control (admixed and surface applied)		1 3
SIVO*   Cr-VI-free corrosion protection     Dynasylan*   Binder for inorganic zinc rich coatings, inorganic zinc rich paints     Water repellents , graffiti control, corrosion control (admixed and surface applied)	, ,	Waterborne, adhesion promotion
SILBOND*     inorganic zinc rich paints       Water repellents , graffiti control, corrosion control (admixed and surface applied)	, ,	Cr-VI-free corrosion protection
control (admixed and surface applied)		5
Protectosil <sup>®</sup> and surface protection (easy-to-clean)	Protectosil®	



### Contact

Functional Silanes dynasylan@evonik.com silanes@evonik.com protectosil@evonik.com

Please scan the QR Code to find a suitable contact partner at Evonik or visit silanes.evonik.com/en





### **High Performance Polymers**

### VESTOSINT<sup>®</sup> and VESTAMELT<sup>®</sup> bring structure to coatings. Our polyamide 12 powders transform drab surfaces into decorative or functional structured elements. Surfaces treated with coatings which are formulated with VESTAMELT<sup>®</sup> or VESTOSINT<sup>®</sup> additives have high flexural strength and elasticity and excellent abrasion resistance. Our VESTAKEEP<sup>®</sup> brand of PEEK (Polyether ether ketone) powders deliver high performance coatings, offering high temperature performance, strength, durability, and excellent wear resistance.

Product name	Applications
VESTOSINT®	Coating of metal, coil coating, textured paints, wood paints, packaging foils, rubber surfaces
VESTAMELT°	Coil coating, textured paints
VESTAKEEP®	Coating of metal (electrostatic spraying, flame spraying), dispersion coating, tribological coating



#### Contact

High Performance Polymers evonik-hp@evonik.com www.vestosint.com www.vestakeep.com

## NOTES NOTES NOTES NOTES NOTES

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