



Full Service PVC Solutions

 Akdeniz Chemson



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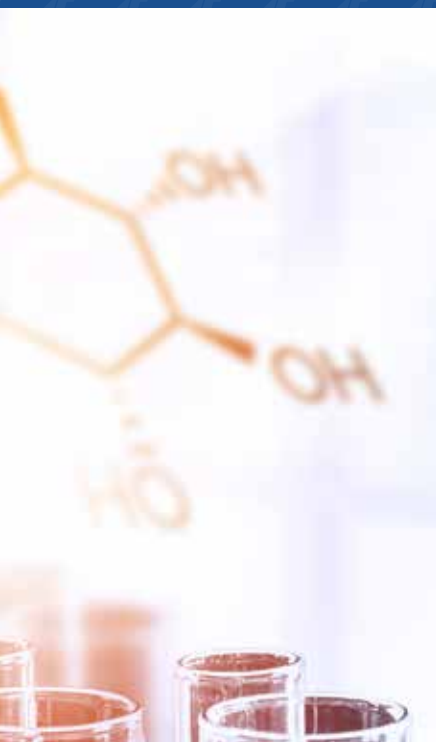
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Beyond Additives!

To make modern life more comfortable and sustainable, additives in materials are essential for many applications from window panels to cables, pipes, flooring, etc. The use of stabilizers and additives guarantees sufficient heat stability for PVC during processing and protects the end product from changes due to heat, UV light, oxygen, and impact and enhances the economic life of products.

Akdeniz Chemson, one of the leading manufacturers of polymer additives, and the world market leader

in the field of PVC stabilizer products focuses on quality, innovation, and sustainability. Akdeniz Chemson offers tailor-made solutions with stabilizer systems and high-quality products that meet every customer demand and provide the desired final product properties.

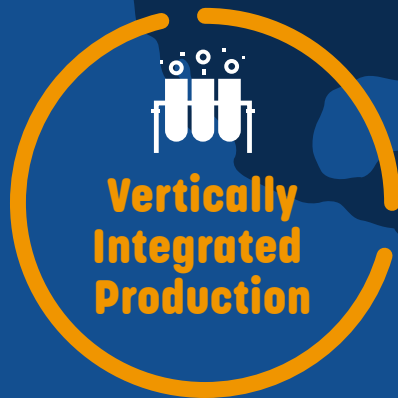
Akdeniz Chemson shall continue to grow and go beyond additives!





Customer-Centric Approach

A global leader in PVC stabilizers, Akdeniz Chemson is a vertically integrated company that manufactures many of its raw materials at its state-of-the-art production facilities. Akdeniz Chemson's Professional Sales Network and Global Product Development Expertise offer clients tailor-made solutions with stabilizer systems and high-quality products. Thanks to its global know-how, Akdeniz Chemson provides clients with fast delivery, excellent technical service and customer-centric solutions.





Unique Formula Development



Continuous Product Development



Validation at In-House Facilities



Customer Centric Solutions

Products & Services

Innovative products that facilitate PVC processes.





Stabilizers

Stabilizers are combinations of chemicals necessary for the processing of PVC that play a critical role for the development of a final product in terms of desired quality and durability. Combined with lubricants and other additives, Akdeniz Chemson's stabilizer portfolio presents tailor-made solutions for final product performance requirements.

The choice of stabilizers depends on processing technologies and requirements of the finished products. Many parameters such as the process rules (rheology) and process interval, efficiency, price, sustainability, REACH and other legal subjects, and the final product characteristics are determinative for the selection of stabilizers. The use of stabilizers guarantees sufficient heat stability for PVC during processing and protects the end product from change due to heat, UV-light, or oxygen. Akdeniz Chemson's products have a wide range of usage in applications such as rigid window building profiles, rigid PVC pipes, injection moldings, cable insulation and sheathing, rigid and flexible sheets, floor coverings, artificial leather, shoe soles and more.

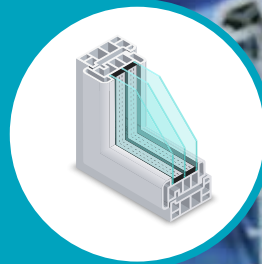


Technical & Window Profiles

PVC is a leading raw material used in the production of technical profiles and window profiles. Stabilizers with their various special components make it possible to process PVC. Stabilizers and special additives are needed during the PVC process to meet PVC's many properties such as heat stability, color stability, well-dispersion and gelation. The choice of stabilizer varies based on the variety of use and performance expectations of the end product such as window profiles, blinds, rain gutters, cable ducts, coating. Akdeniz Chemson offers tailor-made solutions with stabilizer systems that meet every customer demand and provide the desired final product specifications.

Areas of Application

- Window profiles
- Co-extruded profiles (Skin layer/core layer)
- Roller shutters
- Cable conduits
- Compact sheets
- Sidings (Coex)
- Foam profiles
- Co-extruded foam profiles
- Wood composites (WPC)
- Edge bandings
- Rainwater gutters



Advantages

-  Excellent processing capability
-  Good color properties
-  Excellent heat stability
-  Good weathering properties
-  Excellent impact performance

Product Forms



Powder



Granule



Tablet

Pipes & Fittings





With their different application areas, colors and sizes, PVC pipes and injection parts require excellent technical features, high quality and must withstand harsh conditions for a long time. A service life of 100 years or more has become a standard for PVC pipes. A wide variety of pipes such as sewer and waste water pipes, drinking water pipes, drainage pipes, irrigation pipes, foam pipes and rain gutters can have the desired properties with suitable and special PVC additives; such as ease of installation and maintenance, recyclability, very good mechanical properties and resistance to corrosion and chemicals. Akdeniz Chemson offers the right type of stabilizer systems for all versions and individual solutions for specific customer requirements.



Areas of Application

- Pressure pipes
- Sewer pipes
- Electrical pipes
- Foam core pipes
- Bi-oriented pipes
- Pipe fittings

Advantages

-  High output rates
-  Excellent process control
-  Excellent heat and dynamic stability
-  Excellent color stability
-  Low dimensional variety
-  High geometric stability

Product Forms



Powder



Granule



Tablet



Flake

Wires & Cables

Since polyvinyl chloride is one of the most widely used thermoplastic polymers, it is the material of choice for both insulation and sheath mixtures for cables in the high voltage range and temperatures.





PVC cables find their way in a wide range of fields from automotive cables, underground cables, telecommunication to insulation cables. At this point, specially designed stabilizers increase the mechanical and electrical qualities of the cables and provide the desired final products under efficient production conditions. In the PVC cable segment, Akdeniz Chemson offers standard stabilizer systems (e.g., calcium/zinc) as well as customer-specific solutions.



Areas of Application

- Underground cables
- Installation cables
- Telecommunication cables
- Automotive cables
- Energy cables

Advantages

-  Good heat stability
-  Excellent early colour
-  Good color hold
-  Low water absorption
-  Good dispersion and improved processing rate

Product Forms



Powder



Granule



Flake

Flooring


PVC continues to be in increasing demand in the floor covering market, as in many other areas. Modern floors made of PVC with the appearance of natural materials such as wood and stone are widely used. To meet specific criteria such as easy installation, easy cleaning, scratch resistance, good durability in heavy traffic areas, special stabilizers suitable for each application are required. Akdeniz Chemson offers special solutions with suitable stabilizers of different compositions and physical forms for all flooring applications.

Areas of Application

- Luxury vinyl planks (LVP)
- Luxury vinyl tiles (LVT)
- Stone plastic composites (SPC)
- Wood plastic composites (WPC)
- Engineered vinyl planks (EVP)
- Expanded polymer cores (EPC)



Advantages

-  Long durability
-  Scratch resistance
-  Low odor
-  Excellent heat stability
-  Excellent process control

Product Forms



Powder



Granule



Liquid

Flexible PVC Applications






PVC has several degrees of hardness and becomes flexible with the addition of plasticizers, depending on the flexibility of the products to be manufactured. PVC products manufactured with the addition of plasticizers reach the desired flexibility, adapt very well to the ambient conditions in the areas of use and have a long life. Soft PVC products are manufactured at lower temperatures compared to hard PVC products, and Akdeniz Chemson offers innovative solutions that are most suitable for the application area and process conditions in all these applications.

Areas of Application

- Calendered sheets
- Roofing foils
- Artificial leather
- Wallpapers
- Tablecloths
- Water proofing membranes
- Roofing films
- Shoe sole
- Flexible tubes and hoses
- Gaskets



Advantages

-  High heat stability
-  Good transparency
-  Low odor
-  Low plate-out tendency
-  Good processing

Product Forms



Powder



Granule



Liquid

Single Products

Akdeniz Chemson offers a wide range of innovative product types that facilitate processing of PVC: Metallic Soaps, Metallic Salts, Beta-diketones, Hydrotalcites, Acrylic Impact Modifiers, Acrylic Processing Aids.



Metallic Soaps

Metallic soaps are products of the reaction between a metal oxide or a metal hydroxide and various lengths of fatty acids (C8 to C22) which possess co-stabilizer and internal/external lubricant functionalities in PVC formulations. In general, they are the Al, Ba, Ca, Pb, Mg and Zn soaps of stearic, lauric and benzoic acids. The main stabilizing function of metal soaps is being HCl acceptor which forms during PVC processing.

Functions

- Increased heat stability
- Reducing effect on the initial coloring

Product Forms



Powder



Metallic Salts

Metallic salts can use to adjust rheology, stability, and color. These salts of inorganic acid can contain a hydrophobic coating or not. Inorganic-Organic salts of lead compounds are the most abundant, cost-effective and common form of stabilizers used for PVC applications. Their heat stabilizing effects are flawless and used for PVC products with a long service life.

Functions

- Outstanding electrical properties
- Excellent thermostability
- Good weathering properties

Product Forms



Powder



Flake

Lubricants

Hydrocarbon waxes, metal stearates, fatty acid esters, ester waxes, and amide waxes are typical lubricants used in PVC formulations. In general, lubricants are classified into three main sub-groups: External, internal, and combined lubricants.

Functions

- Decreased viscosity of polymers
- Reduced glass transition temperature (T_g)
- Reduced friction between polymer particles
- Temperature increase prevention

Product Forms



Powder



Transparent
Liquid



Beta-Diketones

Beta-diketones are important class of co-stabilizers for calcium/zinc-based systems. Stearoyl benzoyl methane (SBM), dibenzoyl methane (DBM), calcium and zinc complex of acetylacetone are mainly used beta-diketone derivatives in PVC formulations.

Functions

- Diminished dehydrochlorination rate
- Good early color and color stability
- Good long-term thermal stability

Product Forms



Powder

Hydrotalcites

Layered double hydroxides, also known as hydrotalcites, are a group of naturally occurring anionic clays with a general chemical formula of $Mg_6Al_2(OH)_{16}CO_3 \cdot 4H_2O$. Hydrotalcites are proven to be very effective in PVC stabilization, because of their good acid scavenger property due to their exceptional anion-exchange properties. Hydrotalcites remarkably enhance the performance of Ca/Zn-based stabilizer systems.

Functions

- Good acid scavenger effect
- Enhanced performance of Ca/Zn-based stabilizer systems

Product Forms



Powder



Acrylic Impact Modifiers

Impact modifiers promote impact strength of thermoplastics and thermosets to recover their initial fragility and provides UV resistance, excellent color stability, and durability.

Functions

- High impact resistance
- Improved mechanical properties
- Good weathering properties

Product Forms



Powder

Acrylic Processing Aids

Acrylic processing aids are used in many PVC applications including rigid foams, pipes, window profiles and sheets. Acrylic processing aids are copolymers of methyl methacrylate and other types of acrylic monomers. Acrylic processing aids ease processing capability, guarantee the stability of the final thermoplastic, and facilitate some post-processing operations like thermoforming. Acrylic processing aids are used in many PVC applications including rigid foam, pipe, window profile, and sheet.

Functions

- Reduced fusion time
- Improved melt homogeneity
- Increased melt elasticity, melt strength
- Improved effect on surface quality
- Ensured lubrication of melt
- Stick prevention

Product Forms



Powder



Titanium Dioxide

Titanium dioxide (TiO₂) is one of the whitest naturally occurring materials and has a high refractive index. It provides very good whiteness and opacity when used by grinding as a fine powder.

Areas of Application

- Plastics (PVC)
- Paints
- Cosmetics
- Textile
- Papers
- Coatings

Functions

- Outstanding weathering resistance
- Good dispersion
- Very high brightness and a neutral tone in whites
- High tinting strength and opacity

Product Forms



Powder



Stearic Acid

Stearic acid, which is also known as octadecanoic acid, is a saturated fatty acid with an 18-carbon chain. It is typically produced by hydrolysis of common animal and vegetable fats and oils then separation of these fatty acids. It provides easy processing by supporting the softening of PVC products.

Areas of Application

- Foods
- Detergents
- Soaps
- Cosmetics
- Textiles
- Electronics

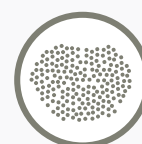
Functions

- Good light stability to PVC products
- Lubricity
- Mold release

Product Forms



Powder



Beads

Epoxy Soybean Oil

Epoxy Soybean Oil (ESBO) is used as a plasticizer and secondary stabilizer in PVC applications. It can be mixed with other main and polymeric plasticizers to perform the desired operations, especially with lower costs.

Areas of Application

- Hard and elastic applications
- Cables
- Cable channels
- Pipes
- Hoses
- Gaskets
- Insulation materials (Shingle membrane water retaining tape)
- Packagings
- PVC tablecloths
- Toys
- Belt bands
- Panels
- Furnitures
- Surface paints

Functions

- Heat stability
- Light durability
- Excellent dispersion
- UV stability
- Internal lubrication effect

Product Forms



Liquid



Chlorinated Polyethylene

Chlorinated polyethylene (CPE) is a high molecular elastomeric material that is chlorinated by HDPE. It is white powder and non-toxic. It can be mainly used as PVC impact modifier.

Areas of Application

- Profiles
- Pipes
- Fittings
- Coatings
- Exterior facade coatings
- Automotive industry

Functions

- Impact resistance
- Weatherability
- Good processing performance

Product Forms



Powder

Zinc Borate

Zinc borate is used as a smoke suppressant and a flame retardant in a wide range of applications such as plastics, rubber, textiles, paints, adhesives, pigments and ceramics. In plastics and rubber applications, it synergizes with main flame retardants, such as ATH, and increases their activity. Zinc borate does not form toxic and corrosive gases during combustion, it is an environment-friendly compound. Zinc borate can be used in both halogen-containing and halogen-free flame retardant formulations.

Functions

- Excellent flame retardancy
- Improved performance & Smoke suppression



Key Features



**State-of-the
Art Production
Process**



**Innovation
Focused
R&D**



**Vertically
Integrated
Company**



**Customer-Centric
Approach**



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