



Permanent Antistatic Agents

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Make more
out of plastics

We enhance the performance of polymers

Most plastic materials serve as electrical insulators and can facilitate high static charge accumulation. Static electricity is generated through charge separation that occurs when one material moves against another.

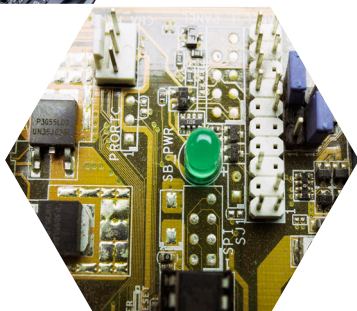
This can lead to various problems, including handling and contamination challenges during transport, storage, and packaging. Furthermore, the attraction of dust can compromise aesthetics and functionality, while the risk of electrostatic discharge may damage electronic components and pose shock hazards to employees, potentially leading to fire risks.

Why an antistatic agent?

Most plastic materials act as insulators and are prone to significant static accumulation. Some of the issues encountered as a result of static build-up in polymers include:



The aesthetic and functional properties of plastic products are influenced by the dust attraction.



The risk of electrostatic discharge in electronic components.



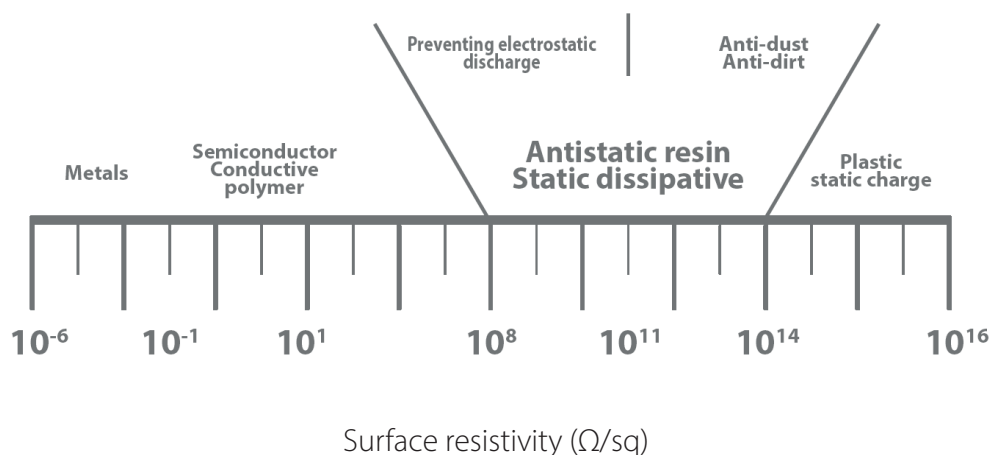
Employees may be subject to shock from electrostatic discharge and possible fire hazards or explosions.



Enhanced handling and contamination challenges during lift storage and packaging

Permanent Antistatic Agents

To relieve these issues, static control additives are incorporated into polymers to enhance static protection by reducing the material's resistivity. Various types of static control additives can be selected based on the required level of protection.



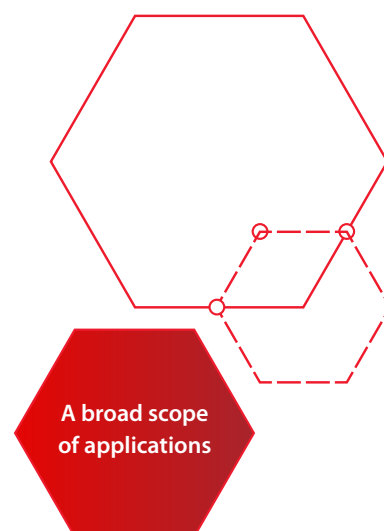
Our product range

ADEKA antistatic agents are in granular forms and can be conveniently dosed depending on the targeted surface resistivity to achieve either an anti-dust effect or a static dissipative performance. It is suitable for both injection moulding and extrusion processes. Its proprietary polymer structure has proven not to alter significantly mechanical properties of the host matrix, contrary to other competitive products.

Product reference	Resin field application	Typical End User product	Additional features
ADK STAB-307	Polyolefins such as LLDPE, LDPE, PP and glass-fiber reinforced PP Sealant and Elastomer such as EVA, EEA and EPDM	films, sheets for packaging, intermediate bulk container, injected articles, roller for print	Maintains film transparency Can be used with various color pigments Preserves film heat sealability
ADK STAB-302	Styrenic resins such as ABS, ASA and HIPS (including polymer alloy) Polyester, PA, POM (including polymer alloy)	Plastic parts for home appliance, automotive interior, industrial parts	Melting point lower than 100°C facilitating its incorporation in the polymer matrix

ADEKA antistatic agents provide an immediate and permanent, long-lasting antistatic effect, as it is not based on a migratory system. Their effectiveness is largely independent of relative humidity.

Due to the polymeric nature, it is non-migrating and do not contribute to fogging, VOC or odour formation.



Permanent Antistatic Agents

Key Benefits

- Immediate and permanent effect
- Humidity independent
- Engineered additives give a uniform and homogenous distribution into host polymer.
- Minimal change to host polymer properties
- Good compatibility with host polymer
- Excellent processability and surface quality
- Suitable for compounding, extrusion or injection molding
- Allow compliance with key industry standards
- Suitable for use under food contact legislation

Case study

Rubber rollers for film and print industry.

Rollers for flexible packaging printing such as rotogravure, dry lamination, blown film, extrusion lamination.

For such applications, the customer uses ADK STAB AS-307

- Loading level 5wt%
- Base polymer EPDM
- Target surface resistivity $10^9 - 10^{10} \Omega/\text{sq}$



Why our customer chose ADK STAB AS-307 product:

- Melting point is below 100°C which enables easy processing and good mixing with the polymer.
- In such printing rollers, carbon black is typically used to achieve the required antistatic performance. As alternative, ADEKA antistatic agent allows rollers in different colours which was a key benefit.
- No bleed out (no migration) occurred with ADEKA permanent antistatic agent.

Household products industry

Internal parts, frames, external body of A/C equipment.

For this application, the customer uses ADK STAB AS-307

- Loading level 5wt%
- Base polymer recycled PP
- Target surface resistivity $10^{11} - 10^{12} \Omega/\text{sq}$



Why our customer chose ADEKA permanent antistatic agent:

The customer's key requirement for long-lasting antistatic performance (85°C , 85%R.H., 1000hr) was met.

Seats

Back rest of chairs of use in clean room.

For this application, the customer uses ADK STAB AS-307

- Target surface resistivity $10^{12} \Omega/\text{sq}$
- ADK STAB AS-307 used at 13%

Why our customer chose ADEKA permanent antistatic agent:

The customer's key requirement for antidust performance

Further Information

ADEKA sales and distribution are coordinated through an extensive worldwide network of technical and commercial experts.

For further information or guidance please contact us: contact@adeka-pa.eu

ADEKA
your strategic
partner

Our technologies are used by leading companies in a wide variety of markets and our portfolio opens endless opportunities for a large range of applications.

Fibers and tapes

Our light stabilizers and high end phosphites bring protection from discoloration and thermal degradation for fibers, tapes and flooring.

Appliance and household goods

Whilst our antioxidants provide long-term stability to household goods, our light stabilizers improve their visual appearance and lifetime.

Automotive

Our range of high performance nucleating agents guarantee increased productivity and higher mechanical properties.

Building, construction and furniture

Longevity is extended and aesthetics are maintained by the use of our plastic additives in applications such as furniture, roofing, W&C and pipes as well as floorings.

Electric and electronics

Our flame-retardants cover a broad application spectrum ranging from polyolefin to engineering plastics. By being halogen-free FR, they follow the present trend to substitute their halogenated predecessors for a more sustainable future.

Packaging

Our permanent antistatic agents are largely food approved according to various global regulations.



ADEKA Polymer Additives

Our polymer additives division is a major chemical player addressing the challenges of the worldwide plastics industry for more than 50 years. As a part of ADEKA Group, ADEKA Polymer Additives Europe offers an extensive range of polymer additives throughout Europe, former CIS countries and Africa.

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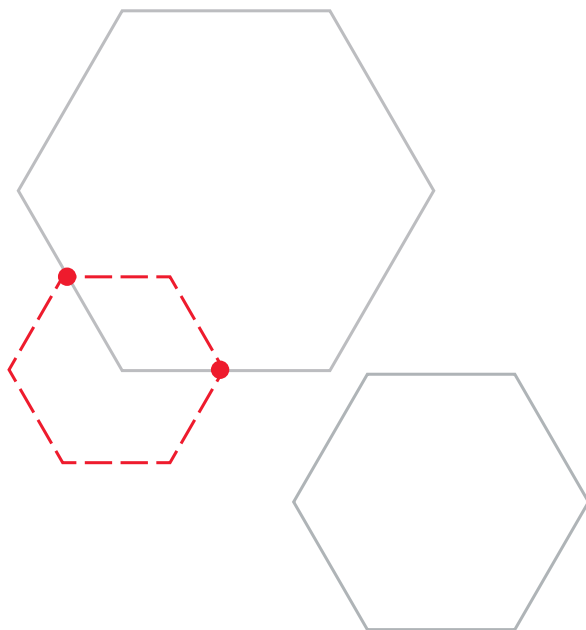
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