

We have been retained by M/s MECO GmbH to market their antistatic, antiblocking and antifogging agents and special additives for the plastic industry.

The company has been providing Anti-Static - antiblocking - lubrication – antifogging since 1983.

Their specialties are surface coating agents, product range MECOSTAT<sup>®</sup>, for a great variety of applications in the field of plastics and papers.

Mecostat –antistatic surface, antifogging agents and antiblocking

Also available are combined products, which combine the following properties

Anti-Static - antiblocking - lubrication – antifogging

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**MECOSTAT-3 antistatic-additives are highly effective internal antistatic agents for the antistatic finish and for improvement of the slipping properties of plastics, particularly of polyolefin's.**

These antistatic blends are preparations of fast working antistatic substances as well as of long term working substances, so that an antistatic effect can already be seen after a short time and has a long term effect.

They are mainly used in injection molding and extrusion area of PP and PE. The products can also be used in transparent applications due to their neutral color in the recommended addition level.

The resistance to temperature of the product guarantees that subsequent thermoforming can be performed without problems.

For areas in which an effect is required immediately liquid coatings are better, for areas in which low surface resistance (so high antistatic properties) are required liquid coatings are better, too.

For thin films and if there is only a slight antistatic necessary then additive are more suitable as they are easier to use and the costs are lower.

There are 2 different possibilities regarding antistatic / antifog treatment of BOPP films:

- 1) Adding an additive during extrusion
- 2) Apply a surface coating after the extrusion process (depending on the surface resistance required this can be done before stretching of the film).

Both systems have their advantages and disadvantages.

The adding of an additive is technically the easier solution, but it has the disadvantage that an antistatic effect can only be seen after a certain time period.

The surface coating is technically more complicated, but it supplies immediately the antistatic effect and therefore as well solves statically created problems during processing of the film.

Further the surface coating at the same time provides an antifogging effect which can enhance the value of the film strongly if the film is used in areas where an antifogging is important for better presentation of the packed products (e.g. in cold packing)

Our company can supply both kinds of materials

Additives for antistatic and surface coatings for antistatic and antifogging for highest quality products.

There are 2 different possibilities regarding antistatic / antifog treatment of BOPP films:

An essential distinguishing feature is the solvent base of the coating agent. Basically there are two kinds of coating agents:

**Water based systems:** they can be used on dipping bath coaters, felt coating systems (the sheet is moved along a felt which is impregnated with the coating agent) and different other coating machines

**Solvent based coating agents:** normally the solvent is isopropanol; these agents are well suited for application with flexo and gravure printing machines.

Another important feature is the operating range of the coated plastic, e.g. food packing, technical application, electronic packaging etc.

For each of these applications exist different coating agents with distinctive properties.

Some examples:

**Combined antistatic/antiblocking agents for food and technical packing range:**

MECOSTAT-3/09 (water based) for thermoforming sheet (PP/PE) up to 2000 µm (e.g. for cups)

MECOSTAT-3/11 (water based) for thermoforming sheet (PP/PE) up to 400 µm (e.g. for covers)

MECOSTAT-3/112 (water based) for thermoforming sheet (PP/PE) up to 1000 µm and other sheets

MECOSTAT-3/145 (water based) for thermoforming sheet (PP/PE/PET) up to 1000 µm and other sheets

MECOSTAT-3/232 (water based) for thermoforming sheet (PET) up to 1000 µm and other sheets (strong antiblocking)

MECOSTAT-3/124 (isopropanol based) for sheet (PP/PE/PET) up to 400 µm

MECOSTAT-3/132 (isopropanol based) for sheet (PP/PE/PET) up to 1500 µm

MECOSTAT-3/26 (water based modified silicon) for sheet (PET) up to 1000 µm (strong antiblocking)

#### Electronic packing:

MECOSTAT-3/221: water based coating agent with antiblocking and very good antistatic properties

MECOSTAT-3/241: water based coating agent with antiblocking and antistatic properties (low ion)

MECOSTAT-3/240: isopropanol based coating agent with antiblocking and antistatic properties (low ion)

Normally, MECOSTAT-3/241 and MECOSTAT-3/240 are used in applications where very sensitive or corrodible parts have to be packed (CPUs, electronic components, etc.), since this material is nearly ion-free (no chlorides, nitrates, phosphates, etc.).

MECOSTAT-3/221 is used for thermoforming packaging of less critical products, e.g. mobile phones, complete electronic assemblies and for over wraps.

All the named products are ready-to-use solutions (typical wet coating amount is 2 - 3 g/sqm, depending on the application).

For special cases we offer concentrates, too.

#### Properties

**Fast migration of the agent, antistatic effects already after a few hours**

**long term antistatic properties for several years with reduction of the surface resistance as far as  $1 \times 10^{10}$  Ohm at 50% rel. humidity**

**Temperature resistance guarantees unproblematic thermoforming without impairing the antistatic properties**

**The slipping properties of the plastic surfaces are improved considerably therefore improving the stackability of deep drawn parts**

**As well the plastic will attract much less dust which is important for the packaging industry.**

**Unproblematic recycling of the antistatic plastics**

**Easy and dust free dosing of the antistatic blend**

**The highly effective surface antistatic agents of this product line work even at low air humidity.**

**They effect a long-term antistatic property for several years. For the antistatic coating of food we offer admitted packing products. Antiblocking agents and lubricants are available as silicone-based and as silicone-free agents.**

**Also available are combined products, which combine the following properties Anti-Static - antiblocking - lubrication - antifogging**

The product line includes MECOSTAT-3 antistatic agents, antiblocking agents, lubricants, anti-sticking antifogging agents and coatings for several ranges of applications as

**Thermoforming sheets**  
**Technical sheets and plates**  
**Molded, injection molded parts and hollow bodied**  
**Packing of Electronic Devices**  
**Food Packing**  
**Fabrics, mono-and multifilament**  
**EPS, Foam Materials**  
**Packaging for electronic parts and devices:**  
**Packaging for foodstuff**

**Packaging for technical products** : These coating agents are suitable for Antiblocking and Antistatic coating of Thermoforming sheets, Thermoformed parts, bags and foils for packaging for the food packaging area.

**Antistatic coating of sheets and molded parts** :These coating agents are suitable for Antiblocking and Antistatic coating of Thermoforming sheets, Thermoformed parts, bags and foils for packaging for all Technical ranges.

**ANTISTATIC ANTIBLOCKING + + ANTIFOGGING COATINGS FOR**  
**Sheets for thermoforming (thick e.g. for cups)**  
**Sheets for thermoforming (thin e.g. for caps)**  
**Foils and sheets of all kind**

Antiblocking agents and lubricants are available as silicon-based and as silicon-free agents.

Also available are combined products, which combine the following properties:  
Antistatic - antiblocking - lubrication – antifogging

**Field of applications**

**Antiblocking coatings of**

**Packaging for foodstuff**

**Packaging for technical products**

**Industrial adhesives for the highly transparent adhesion of polyester films and polyester panels.**

**Industrial Adhesives for polyester (PET)** Our Industrial Adhesives are special 1-K adhesives containing solvents for transparent polyester materials which were particularly developed for bonding films amorphous PET (APET and PETG).

The adhesives MR-AP/35 and SR-AP/49 are both for bonding of 2 PET films together. Both are solvent containing adhesives.

### **Application Fields**

**Bonding of APET and transparent PETG sheets on available machinery with bonding device:**

- **Boxes foldable**
- **transparent lids**
- **Round containers, pipes**

**bonding of APET blown or other containers can be made of PET (APET or PETG) (special PET from Kodak-Eastman). All these parts are used e.g. for packaging of several products (for example: toys, clothes, technical products ...)**

**A bonding of PET with another material (cardbox, paper, and other plastics) is not possible with these adhesives.**

**We do not keep inventory of these Products in INDIA. You will be required to import these chemicals directly from MECO GmbH, Germany**

**You inform us about your technical requirements. We then will check which of our products are eligible (possibly we will have to make some tests in our our Principals lab with your products)**

**Then we send you all information (and samples if required) for this product**

**We would suggest this procedure because we have a very wide range (more than 500) of antistatic / antiblocking and antifogging agents for various applications.**

**For the range of monofilaments and multifilament we can offer several special coatings, e.g. antistatic concentrates for white oil.**

**We are offering A HIGHLY CONCENTRATED ANTISTATIC AGENTS FOR MONO AND MULTIFILAMENTS FIBERS IN COMBINATION WITH WHITE OILS from MECO, GmbH, Germany.**

### **MECOSTAT M3-340**

Antistatic treatment of

White oils used during weaving of fibers or tapes

White oil used as lubrication for yarns

White oil used as lubricant for mono and multifilament

### **MECOSTAT-3/336**

If the customer traverses with the filaments through a water bath in his production line, he can add an antistatic concentrate to this water to get a coating on the filaments. A suitable concentrate is MECOSTAT-3/336; it can be diluted with water or isopropanol with a ratio of 1:15 to 1:30.

**We also offer: Surface Resistance Measuring Device MGT-3**

The demand for better quality in the surface properties of plastics, particularly in terms of anti-static treatment, has led to the need for a reliable and consistent measuring system for the treatment of anti-static plastics.

The safest indicator for the anti-static treatment of a plastic surface is the surface resistance which in turn, is directly related to its conductivity, as the charging of plastic, which is random, will not falsify the measuring result.

Conclusions relevant to the charging of plastics and therefore, for example their potential for Attracting dust particles, can be drawn from the surface resistance.

The surface resistance therefore represents a definite measurable value, as opposed to traditional procedures such as dust room tests, etc., which are susceptible to a number of other influences apart from the static charging which may Invalidate the results

The MECO anti-static tester MGT-3 is used as an operational measuring device for determining the surface resistance of plastics in accordance with the standard DIN 53 482 resistance within the tolerance levels of  $1 \times 10^5$  to  $> 1 \times 10^{12}$  ohms.

The device is switched on or off by means of the ON / OFF switch. When not in use, the device will switch itself off after approx. 1 minute.

To take measurements, the device is placed onto the surface to be measured in such a way that the measuring electrodes on the front of the device come into contact with the plastic surface.

The measured value is processed in one logarithmic amplifier stage and then passed on to a microprocessor for evaluation.

The recorded value at this stage is then shown on a display and can be stored by means of a HOLD button in order to be able to take precise readings (in areas which are difficult to reach, for example).

100 sequences for measuring measured values can be saved during the measurement by a simple keystroke. Subsequently, the values can be read out again, whereas you have an optional choice to turn over between the single measured values.

The stored measuring values can be transmitted to a personal computer with special software

The Electricity Supply of the measuring device occurs alternatively by an 9V battery or a rechargeable Accumulator.

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### **Introduction**

Since 1983 we manufacture antistatic, antiblocking and antifogging agents and we produce special additives and measuring devices for the plastic manufacturing industry.

Our specialties are surface coating agents, e.g. our product range **MECOSTAT®**, for a great variety of applications in the field of plastics and papers.

We offer comprehensive technical advice with regard to both, the right choice of the right type of material for application and the coating systems.

Our application technology department is at your disposal for the conception of optimal application systems, as well as for preparing upgrade suggestions for installations already in use.

### **Product Range**

***MECOSTAT® - surface refinement : antistatic, antifogging- and antiblocking agents***

MECOSTAT-3 - surface refinement agents are highly effective coating agents for the coating of plastic- and paper surfaces.

The product line MECOSTAT-3 includes antistatic agents, antiblocking agents, lubricants, anti-sticking agents and antifogging coatings for several ranges of applications as

- thermoforming sheets
- technical sheets and plates
- moulded, injection moulded and hollow bodied parts
- packing of electronic devices
- food packing
- profiles
- fabrics, mono- and multifilaments
- EPS, foam materials

### **Antistatic agents**

The highly effective surface antistatic agents of this product line work even at low air humidity.

They effect a long-term antistatic property for several years. For the antistatic coating of food packing we offer approved products.

The coating's resistance to temperature ensures that a following thermoforming can be performed without any damage. Furthermore, the antistatic treatment of the material remains mostly unaffected by the stretching of the material during the thermoforming process.

Field of applications

- Antistatic coating of- Packaging for electronic parts and devices
- Packaging for foodstuff
- Packaging for technical products

A selection of products :

MECOSTAT-3/112 : waterbased antistatic / antiblocking agent for food packing and technical applications

MECOSTAT-3/145 : waterbased antistatic agent for food packing and technical applications

MECOSTAT-3/124 : isopropanol based antistatic / antiblocking agent for food packing and technical

applications

MECOSTAT-3/221 : waterbased antistatic / antiblocking agent only for electronic and technical packaging

(no food packaging)

MECOSTAT-3/241 : waterbased antistatic / antiblocking agent only for electronic and packaging

extremely low ion content, Class 1

cleanliness specifications for electronic packaging

(no food packaging)

### **Antiblocking agents -- Antifogging products**

Antiblocking agents and lubricants are available as silicone-based and as silicone-free agents.

Also available are combined products, which combine the following properties

Antistatic - antiblocking - lubrication - antifogging

Field of applications

- Antiblocking coating of packaging for foodstuff
- Antiblocking coating of packaging for technical products

A selection of products :

MECOSTAT-3/232 : waterbased antiblocking / antistatic agent for food packaging and technical applications

free from silicone

MECOSTAT-3/26 : waterbased antiblocking / antistatic agent for food packaging and technical applications

polysiloxan derivate (modified silicone)

MECOSTAT-3/722 : waterbased antifogging / antiblocking agent with slight antistatic properties for food

packaging

MECOSTAT-3/724 : isopropanol based antifogging / antiblocking agent with slight antistatic properties for food packaging

### *MECOSTAT® - Antistatic – Additives*

MECOSTAT-3 antistatic-additives are highly effective internal antistatic agents for the antistatic finish and for improvement of the slipping properties of plastics, particularly of polyolefines and Polystyrene

These antistatic blends / masterbatches are preparations of fast working antistatic substances as well as of long term working substances, so that an antistatic effect can already be seen after a short time and has a long term effect.

They are mainly used in injection moulding and extrusion area. The products can also be used in transparent applications due to their neutral colour in the recommended addition level.

The resistance to temperature of the product guarantees that subsequent thermoforming can be performed without problems.

Blends for the antistatic treatment as well as for improving slip properties of plastics, for  
- PE, HDPE, LDPE  
- PS, ABS, HIPS

#### Fields of Application

- sheets for thermoforming (thick, e.g. for cups)
- sheets for thermoforming (thin, e.g. for caps)
- foils and sheets of all kind
- profiles

A selection of products :

MECOSTAT-3/618 : highly effective internal antistatic agent for PP, HDPE, LDPE, based on a preparation of  
high-mono GMS and 2-hydroxyethyl  
dodecanamid.

MECOSTAT-3/620 : highly effective internal antistatic agent for PP, HDPE, LDPE, based on a preparation of  
stearic acid esters of glycerole

MECOSTAT-3/572 : highly effective internal antistatic agent for HDPE, LDPE, (PP), based on GMS and  
alkylamine ethoxylate.

MECOSTAT-3/622 : highly effective internal antistatic agent for PS, HIPS, ABS, rigid PVC based on  
alkane sulfonate

### *Surface Resistance Measuring Device MGT-3*

Manual measuring devices for the direct utilization under production conditions.

The demand for better quality in the surface properties of plastics, particularly in terms of antistatic treatment, has led to the need for a reliable and consistent measuring system for the antistatic treatment of plastics.

The safest indicator for the antistatic treatment of a plastic surface is the surface resistance which in turn, is directly related to its conductivity, as the charging of plastic, which is random, will not falsify the measuring result.

Conclusions, relevant to the charging of plastics and therefore, for example their potential for attracting dust particles, can be drawn from the surface resistance.

The surface resistance also represents a definite measurable value, as opposed to traditional procedures such as dust room tests etc., which are susceptible to a number of other influences apart from the static charging which may invalidate the results.