

# Specialty Effects for Polymer Processing



Slip & Anti-block  
Scratch Resistance  
Anti-fog  
Mold Release  
Torque Release  
Plasticization



# Specialty Effects for Polymer Processing

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Cargill is a leading global supplier of specialty ingredients for the plastics industry, working with our customers to meet market demands and consumer needs. Supported by scientific testing, Cargill's diverse range brings functionality and innovation together to deliver additives that offer differentiated solutions. This guide provides an overview of the polymer additive offering from Cargill, giving essential information for initial product selection.

## Our product ranges are used in:

- Automotive applications
- Caps & closures
- Film structures
- Extrusion
- Resin production
- Foamed polymers
- Injection molding
- Liner compounds & plastisols

PRODUCT NAME	CHEMICAL DESCRIPTION	PHYSICAL FORM AT 25 °C	RAW MATERIAL ORIGIN	PRIMARY EFFECT	COMMENTS
<b>Slip &amp; Anti-block</b>					
<b>Optislip™ ER</b>	Erucamide	Powder/Pastille/Microbead/Bead	Vegetable	High slip	Polyolefins and copolymers, PVC and many other polymers
<b>Optislip™ VRX</b>	Oleamide	Powder/Bead	Vegetable	High slip	Polyolefins, PVC and many other polymers
<b>Optislip™ OR</b>	Oleamide	Powder/Pastille	Non-vegetable	High slip	Polyolefins, PVC and many other polymers
<b>Optislip™ 203</b>	Oleyl palmitamide	Bead	Vegetable	Medium slip	Polyolefins and laminated / co-extruded structures, polyamides and engineering polymers
<b>Optislip™ 212</b>	Stearyl erucamide	Bead	Vegetable	Medium slip	Polyolefins and laminated / co-extruded structures, polyamides and engineering polymers
<b>Optislip™ EBO</b>	Ethylene-bis-oleamide	Bead	Vegetable	Medium slip	Polyolefin polar copolymers and anti-tack agent for EVA
<b>Optislip™ SR</b>	Stearamide	Powder/Bead	Non-vegetable	Anti-block	Polyolefins
<b>Optislip™ SRV</b>	Stearamide	Bead	Vegetable	Anti-block	Polyolefins
<b>Optislip™ BR</b>	Behenamide	Bead	Vegetable	Anti-block	Polyolefins
<b>Optislip™ EBS</b>	Ethylene-bis-stearamide	Powder/Microbead/Bead	Non-vegetable	Anti-block, mold release, process aid	Polyolefins, PVC and engineering polymers
<b>Optislip™ EBSV</b>	Ethylene-bis-stearamide	Powder	Vegetable	Anti-block, mold release, process aid	Polyolefins, PVC and engineering polymers
<b>Atmer™ 7772</b>	50% concentrate in polyethylene	Pellet	Inorganic mineral	Anti-block, EPE foam nucleator	High loaded talc concentrate
<b>High Performance Slip</b>					
<b>Incroslip™ SL</b>	Proprietary	Bead	Vegetable	Slip, anti-scratch, torque release	For use when the ultimate in high slip and stability is required
<b>Incroslip™ C</b>	Proprietary	Powder/Bead	Vegetable	Torque release, slip	For use when high slip is required with good organoleptic properties
<b>Incroslip™ Q</b>	Proprietary	Bead	Vegetable	Torque release	For use when both slip and stability are required
<b>Incroslip™ B</b>	Proprietary	Bead	Vegetable	Torque release	For use when high stability is required
<b>Incroslip™ G</b>	Proprietary	Bead	Vegetable	Mold release, anti-scratch	For use when high slip, improved temperature and UV stability are required

## POLYMER ADDITIVES

PRODUCT NAME	CHEMICAL DESCRIPTION	PHYSICAL FORM AT 25 °C	RAW MATERIAL ORIGIN	PRIMARY EFFECT	COMMENTS
<b>Anti-static</b>					
<b>Permanent</b>					
<b>Ionphase™ abSTAT</b>	Proprietary	Pellets	Synthetic	Polymeric static control	ABS and PP; in extrusion, compounding and injection molding. Suitable for thermoformed trays used in electronics industry and for various injection molding applications (ATEX, EPA, dust prevention).
<b>Ionphase™ eSTAT2</b>	Proprietary	Pellets	Synthetic	Polymeric static control	Styrenics (HIPS, GPPS); in extrusion. Suitable for thermoformed trays used in electronics industry.
<b>Ionphase™ fSTAT series</b>	Proprietary	Pellets	Synthetic	Polymeric static control	Polyolefins; in extrusion. For use in general extrusion applications such as films, bags, liners and thermoformable sheets.
<b>Ionphase™ hSTAT2</b>	Proprietary	Pellets	Synthetic	Polymeric static control	mPPO, PPS, PC and PBT; in compounding and injection molding. Recommended for engineering plastics requiring high processing temperatures.
<b>Ionphase™ rSTAT series</b>	Proprietary	Pellets	Synthetic	Polymeric static control	HDPE; in extrusion. Designed for extrusion blow molding applications (IBCs, drums, canisters).
<b>Ionphase™ trSTAT</b>	Proprietary	Pellets	Synthetic	Polymeric static control	PMMA, PLA, PVC; in extrusion, compounding and injection molding. For use in transparent PMMA applications and for low processing temperature polymers.
<b>Ionphase U1</b>	Proprietary	Pellets	Synthetic	Polymeric static control	PC blends (PC/ASA, PC/ABS), PMMA, TPU, SEBS; in extrusion, compounding and injection molding. Suitable for various injection molding and extrusion applications such as dust prevention in automotive interior parts and consumer appliances.
<b>Ionphase™ U2</b>	Proprietary	Pellets	Synthetic	Polymeric static control	Styrenics (PS, HIPS, ABS) and POM; in extrusion, compounding and injection molding. Recommended for thick POM sheets/profiles and various styrenics applications.
<b>Ionphase™ U3</b>	Proprietary	Pellets	Synthetic	Polymeric static control	HDPE, PS, PA12; in compounding and injection molding. Suitable for injection molding applications (ATEX, EPA, dust prevention).
<b>Ionphase™ U5</b>	Proprietary	Pellets	Synthetic	Polymeric static control	Designed for use in colorable, translucent, and filled PP injection moldable applications. Examples of end applications are PP electronics packaging, household appliances and automotive parts
<b>Ionphase™ PE0108M</b>	Proprietary	Pellets	Synthetic	Polymeric static control	Polyolefins; in extrusion. Suitable for blown film liners and other extrusion applications. Product has food contact compliancy according to EU 10/2011 regulation.

PRODUCT NAME	CHEMICAL DESCRIPTION	PHYSICAL FORM AT 25 °C	RAW MATERIAL ORIGIN	PRIMARY EFFECT	COMMENTS
<b>Static control</b>					
<b>Migratory</b>					
<b>Atmer™ 122</b>	Glycerol ester	Microbead	Vegetable	Static control, process aid, mold release	Polyolefins and flexible PVC Brings a balance between static control and a lubrication effect
<b>Atmer™ 125†</b>	Glycerol ester	Microbead	Vegetable	Static control, mold release	LDPE and flexible PVC Brings a balance between static control and a lubrication effect
<b>Atmer™ 129</b>	Glycerol ester	Microbead	Vegetable	Static control, mold release	Polyolefins and flexible PVC
<b>Atmer™ 129 NV</b>	Glycerol ester	Microbead	Non-vegetable	Static control, mold release	Polyolefins, EPEs and flexible PVC
<b>Atmer™ 154</b>	Alkoxyated fatty acid ester	Liquid	Vegetable/Synthetic	Static control	Flexible PVC
<b>Atmer™ 190</b>	Alkyl sulphonate	Pastille	Synthetic	Static control	HIPS, ABS, non-transparent rigid PVC
<b>Atmer™ 262</b>	Ethoxylated amine	Liquid	Vegetable/Synthetic	Static control	Polyolefins & styrenics
<b>Atmer™ 1012</b>	Glycerol ester	Pastille	Non-vegetable	Static control, process aid, mold release	Polyolefins and flexible PVC Brings a balance between static control and a lubrication effect
<b>Atmer™ 1013</b>	Glycerol ester	Pastille	Vegetable	Static control, mold release	Polyolefins
<b>Atmer™ 1013 NV</b>	Glycerol ester	Pastille	Non-vegetable	Static control, mold release	Polyolefins, EPEs and flexible PVC
<b>Atmer™ 7001</b>	50% concentrate in polypropylene	Pellet	Vegetable/Synthetic	Static control	Fast acting, long lasting migrating static control
<b>Atmer™ 7002</b>	50% concentrate in polypropylene	Pellet	Vegetable	Static control, mold release	Recommended for PP closures for Static control and other mold release benefits
<b>Atmer™ 7103</b>	50% concentrate in polyethylene	Pellet	Vegetable/Synthetic	Static control	Mixture of additives to bring synergistic static control
<b>Atmer™ 7105</b>	50% concentrate in polyethylene	Pellet	Vegetable/Synthetic	Static control	Fast acting, long lasting migrating static control
<b>Atmer 7300</b>	50% concentrate in polyethylene	Pellet	Non-vegetable	Processing aid, Static control	Recommended for expanded polyethylene to improve cell size distribution and foaming gas/air exchange
<b>Atmer™ 7306</b>	40% concentrate in polypropylene	Pellet	Vegetable	Static control	Additional mold release benefits as well as effective static control
<b>Atmer™ 7325</b>	30% concentrate in universal polyolefin carrier	Pellet	Non-vegetable/Synthetic	Static control	A mixture of additives to provide synergistic static control
<b>Externally coated</b>					
<b>Atmer™ 110</b>	Ethoxylated sorbitan ester	Liquid	Vegetable/Synthetic	Static control (external)	All polymers, particularly PET
<b>Atmer™ 116</b>	Ethoxylated sorbitan ester	Liquid	Vegetable/Synthetic	Static control (external)	All polymers, particularly PET

† Only available for supply in Asia

## POLYMER ADDITIVES

PRODUCT NAME	CHEMICAL DESCRIPTION	PHYSICAL FORM AT 25 °C	RAW MATERIAL ORIGIN	PRIMARY EFFECT	COMMENTS
<b>Mold release</b>					
<b>IncroMold™ F</b>	Proprietary	Bead	Vegetable	Mold release	Temperatures up to 230 °C, recommended for Polyolefins, such as PE
<b>IncroMold™ S</b>	Proprietary	Bead	Vegetable	Mold release	Temperatures up to 280 °C, recommended for Polyolefins, such as PP
<b>IncroMold™ K</b>	Proprietary	Bead	Vegetable	Mold release, scratch resistance	Temperatures above 280 °C, recommended for Polyolefins, such as PP and polar polymers such as Ionomers
<b>IncroMold™ T</b>	Proprietary	Bead	Vegetable	Mold release	Temperatures above 280 °C, recommended for polyamide
<b>IncroMax™ PS</b>	Proprietary	Powder/Bead	Vegetable	Friction reduction, mold release, scratch resistance	Recommended for use in styrenics and PMMA
<b>IncroMax™ 100</b>	Proprietary	Pastille	Vegetable	Friction reduction, mold release, scratch resistance	Recommended for use in PET and other polyester polymers
<b>IncroMax™ 300</b>	Proprietary	Liquid	Vegetable/Synthetic	Friction reduction, mold release, scratch resistance	Recommended for use in PC and polyester polymers
<b>Atmer™ 7650</b>	50% concentrate in PC carrier	Pellet	Vegetable/Synthetic	Friction reduction, mold release	Recommended for use in PC
<b>IncroMax™ 400</b>	Proprietary	Bead	Non-vegetable	Friction reduction, anti-tack	Recommended for high temperature or polar polymers, especially EVA
<b>Anti-fog</b>					
<b>Atmer™ 100</b>	Sorbitan ester	Liquid	Vegetable	Anti-fog	PE and EVA food wrap
<b>Atmer™ 103</b>	Sorbitan ester	Powder	Vegetable (Non-vegetable <sup>†</sup> )	Anti-fog	Recommended for agricultural films in LDPE and PVC
<b>Atmer™ 116</b>	Ethoxylated sorbitan ester	Liquid	Vegetable/Synthetic	Anti-fog	Food wrap in conjunction with Atmer 1010. Especially suitable for PVC
<b>Atmer™ 185</b>	Glycerol ester	Microbead	Vegetable	Anti-fog	Recommended for agricultural films especially EVA
<b>Atmer™ 1006<sup>†</sup></b>	Glycerol ester	Liquid	Vegetable	Anti-fog	Polyolefin food wrap
<b>Atmer™ 1010</b>	Glycerol ester	Paste	Vegetable	Anti-fog	Cling in food wrap, used in conjunction with Atmer 116. Especially suitable for PVC
<b>Atmer™ 1440 NV</b>	Glycerol ester	Paste	Non-vegetable	Anti-fog	Polyolefin food wrap
<b>Atmer™ 7301</b>	50% concentrate in polyethylene	Pellet	Vegetable	Anti-fog	Long lasting benefits in agricultural film
<b>Atmer™ 7326</b>	50% concentrate in universal polyolefin carrier	Pellet	Vegetable	Anti-fog	Long lasting benefits for use in green house films, particularly multi-layer films
<b>Atmer™ 7340</b>	20% concentrate in polyethylene	Pellet	Non-vegetable	Anti-fog	Clear food wrap applications
<b>Atmer™ 7373</b>	40% concentrate in polypropylene	Pellet	Non-vegetable	Anti-fog	Long lasting benefits in hPP

<sup>†</sup> Only available for supply in Asia

PRODUCT NAME	CHEMICAL DESCRIPTION	PHYSICAL FORM AT 25 °C	RAW MATERIAL ORIGIN	PRIMARY EFFECT	COMMENTS
<b>Plasticizers</b>					
<b>Syncroflex™ 3019</b>	Di-fatty acid ester	Liquid	Vegetable/Synthetic	Plasticizer	PVC cables, gaskets, upholstery
<b>Syncroflex™ 3142</b>	Polyazelate ester	Liquid	Vegetable/Synthetic	Plasticizer	PVC flexible pipes, conveyor belts, oil resistant applications
<b>Syncroflex™ 3157</b>	Polyadipate ester	Liquid	Vegetable/Synthetic	Plasticizer	PVC electrical tapes, protective clothing, crash pads
<b>Syncroflex™ 3159</b>	Polyadipate ester	Liquid	Vegetable/Synthetic	Plasticizer	PVC can coating, conveyor belts, crash pads, NBR
<b>Other specialties</b>					
<b>Atmer™ 163</b>	Ethoxylated amine	Liquid	Synthetic	Process anti-static, anti-fouling agent, continuity additive	Recommended for polyolefin polymerization anti-fouling
<b>Atmer™ 7749</b>	75% concentrate in LDPE	Pellet	Inorganic/Synthetic	Flame retardant	For use in PE

## Further Information

Cargill Bioindustrial sales and distribution are coordinated through an extensive worldwide network of technical and commercial experts. For further information or guidance please contact us:

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