

the solutions you seek



Honeywell Specialty Additives is the world's first commercial manufacturer of low molecular weight polyolefin polymers and the innovator of formulated wax blends for the PVC industry. Our network of Application Laboratories in the U.S., Germany and China distinguishes us as a leading solutions provider with capabilities to serve our customers around the world.

These labs are equipped with a wide variety of extrusion equipment and extensive analytical capabilities to service the PVC processing, color master batch and plastics industries. Our chemists and engineers have many years of industry experience in the applications we serve and are highly skilled at formulating products that meet your individual needs.



We blend creativity and customization to deliver the solutions you seek.



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**Honeywell**

## Honeywell Specialty Additives-Processing Aids



Product Guide - the solutions you seek

**Honeywell**

## A-C® Performance Additives

# typical properties

A-C® Polyethylenes & Copolymers	Mettler Drop Point (ASTM D-3954)	Hardness dmm (ASTM D-5)	Density g/cc (ASTM D-1505)	Viscosity cps @140°C Brookfield	Acid # mg KOH/g (ASTM D-1386)	Physical Form
<b>Homopolymers</b>						
A-C 3A	112°C 234°F	2.0	0.92	450	Nil	Powder
A-C 6, 6A	106°C 223°F	4.0	0.92	375	Nil	Prills, Powder
A-C 8, 8A	113°C 235°F	1.0	0.93	450	Nil	Prills, Powder
A-C 9, 9A	115°C 239°F	0.5	0.93	450	Nil	Prills, Powder
A-C 16A	102°C 216°F	5.5	0.91	525	Nil	Powder
A-C 617, 617A	101°C 214°F	7.0	0.91	180	Nil	Prills, Powder
<b>Low-Density</b>						
<b>Oxidized Homopolymers</b>						
A-C 629, 629A	101°C 214°F	5.5	0.93	200	15	Prills, Powder
A-C 680, 680A	108°C 226°F	1.5	0.95	250	16	Prills, Powder
<b>High-Density</b>						
<b>Oxidized Homopolymers</b>						
A-C 307, 307A	140°C 284°F	<0.5	0.98	85000 <sup>1</sup>	7	Granule, Powder
A-C 316, 316A	140°C 284°F	<0.5	0.98	8500 <sup>1</sup>	16	Granule, Powder
A-C 325	136°C 277°F	<0.5	0.99	4400 <sup>1</sup>	25	Granule
A-C 330	137°C 279°F	<0.5	0.99	3600 <sup>1</sup>	30	Granule
A-C 392	138°C 280°F	<0.5	0.99	4500 <sup>1</sup>	30	Granule
<b>Copolymers/</b>						
<b>Ethylene-Acrylic Acid</b>						
A-C 540, 540A	105°C 221°F	2.0	0.93	575	40	Prills, Powder
<b>Copolymers/</b>						
<b>Ethylene-Vinyl Acid</b>						
A-C 400, 400A	92°C 198°F	9.5	0.92	500	13% Vinyl Acetate	Prills, Powder

AClyn® Low Molecular Weight Ionomers	Melting Point <sup>2</sup>	Cation Type	Acid Number mg KOH/g	Viscosity cps @140°C Brookfield	Physical Form
AClyn 201P, 201A	102°C 215°F	Ca	42	5500	Pastilles, Powder
AClyn 285P, 285A	82°C 180°F	Na	20	80000	Pastilles, Powder
AClyn 295P, 295A	99°C 210°F	Zn	Nil	4500	Pastilles, Powder

Modified Olefin Products	Mettler Drop Point (ASTM D-3954)	Hardness dmm (ASTM D-5)	Density g/cc (ASTM D-1505)	Viscosity cps @140°C Brookfield	Saponification # mg KOH/g	Physical Form
<b>Ethylene Maleic Anhydride Copolymers</b>						
A-C 573P, 573A	106°C 223°F	4.5	0.92	600	5	Pastilles, Powder
A-C 575P, 575A	106°C 223°F	4.5	0.92	>1000	35	Pastilles, Powder
<b>Propylene Maleic Anhydride Copolymers</b>						
A-C 597P, 597A	143°C 290°F	<0.5	0.94	500	80	Pastilles, Powder
A-C 950P	153°C 307°F	<0.5	0.93	2000	43	Pastilles

Polypropylene Homopolymers	Mettler Drop Point (ASTM D-3954)	Hardness dmm (ASTM D-5)	Density g/cc (ASTM D-1505)	Viscosity cps @140°C Brookfield	Saponification # mg KOH/g	Physical Form
A-C 1089	146°C 295°F	<0.5	0.91	45	Nil	Powder
A-C 1172	150°C 302°F	<0.5	0.91	1900	Nil	Powder

### Environmental Considerations

A-C polyethylenes and specialty additives are essentially inert and insoluble in water. Materials may be disposed of as non-hazardous solid organic waste. Spillage is not expected to cause adverse environmental effects.

### Safety Precautions

A-C polyethylenes and specialty additives are non-hazardous at ambient temperatures. Consult Material Safety Data Sheets for complete information.

### Packaging /Shipping

A-C polyethylenes and specialty additives are typically supplied in 25 kg four-ply kraft bags. Products in bags are shipped on pallets, 40 bags to a pallet, net weight 1,000 kgs, and stretched-wrapped. Pallet loads are approximately 51 inches long, 44 inches wide, and up to 57 inches high, depending on product and bulk density. Special packaging is available to meet customer requirements.

1. Measured at 150°C  
2. Determined by Differential Scanning Calorimetry

# product features & benefit guide

A-C® Performance Additives is the most recognized brand from one of the leading manufacturers of low molecular weight polyethylene polymers for the Plastics industry. We help you develop a performance solution by translating your needs into functional requirements. Using our scale and know-how, we manufacture products that deliver that functionality consistently. The A-C product line includes homopolymers, oxidized homopolymers, copolymers, and functionally grafted polymers.

## A-C® Performance Additives

### Color Concentrates

#### Potential product design and process benefits:

- Improved output rates
- Reduced maintenance costs
- Flexibility in manufacturing
- Higher pigment loading
- Convenient product forms
- Improved pigment dispersion
- Higher chroma

Broad resin compatibility

#### Potential end user advantages:

- Reduced pigment costs
- Improved pigment dispersion in film and fiber
- More pigments available for use in applications

Greater flexibility in design of colored products

Higher color strength

### Plastics

#### Potential product design and process benefits:

- Improved dispersion of fillers and impact modifiers
- Reduced power consumption
- Increased extrusion speeds
- Effective nucleating agent for expanded polystyrene

#### Potential end user advantages:

- Greater impact strength
- Reduced operating costs
- More uniform part surface appearance
- Improved release performance

This guide highlights our typical product offerings; however Honeywell's technical expertise coupled with creativity in the delivery of solutions can bring you a material to satisfy your individual needs. For more information please visit us at [www.honeywell.com/additives](http://www.honeywell.com/additives)

## RHEOCHEM® PVC Lubricants

# typical properties

RHEOCHEM® PVC lubricants have been recognized as the leading brand of customized wax blends in the rigid PVC industry for over 25 years. Honeywell's broad portfolio of specialized lubricants offers chemistries that include paraffin and hydrocarbon waxes, fatty acid esters and amides, specialty stearates, and oxidized or non-oxidized low molecular weight polyethylenes.

Honeywell is continually developing innovative lubricant and additive technology for vinyl pipe, window, door profile and siding extrusion applications. Rheochem Lubricant Systems are available as standard products but are typically designed as customized formulations to meet individual customer requirements. Honeywell's tailored solutions enable our customers to reach peak production and superior product performance.

RHEOCHEM® PVC lubricants	Rheolub® Paraffin & Hydrocarbon Lubricants	Congealing Point	Viscosity @ 99°C (210°F)	Acid # (mg KOH/g)	Specific Gravity	Color	NSF/PPI Status <sup>2</sup>	Usage Level Range		
<b>PVC Processing</b>	RL-165	68°C 155°F	6.6 cSt	N/A	0.91	White	Y	0.80-1.5phr <sup>3</sup>		
	RL-165 code 010	71°C 160°F	7.2 cSt	N/A	0.91	White	Y	0.80-1.5phr <sup>3</sup>		
	RL-250	72°C 162°F	8.5 cSt	N/A	0.91	White	Y	0.80-1.5phr <sup>3</sup>		
<b>Potential product design and process benefits:</b>	<b>Smart-Lub® Lubricant Systems</b>	Congealing Point	Viscosity @ 99°C (210°F)	Acid # (mg KOH/g)	Specific Gravity	Color	NSF/PPI Status <sup>2</sup>	Usage Level Range		
		Improved batch to batch consistency	RL-315	74°C 165°F	12.5 cSt	1.6	0.91	Slightly Yellow	Y	0.70-1.50 phr <sup>3</sup>
		Increased melt consistency, fusion control, metal release and compound powder flow	RL-410	73°C 164°F	13 cSt	1.5	0.91	Slightly Yellow	Y	0.70-1.65 phr <sup>3</sup>
Improved melt temperature control	RL-517	104°C 220°F	60 cSt <sup>1</sup>	2.5	0.92	Slightly Yellow	Y	0.70-1.75 phr <sup>3</sup>		
Reduced extruder amperage	<b>Specialty Stearates &amp; Esters</b>	Congealing Point	Viscosity @ 116°C (240°F)	Acid # (mg KOH/g)	Specific Gravity	Color	NSF/PPI Status <sup>2</sup>	Usage Level Range		
Reduced plate-out		RL-710	54°C 165°F	50 cSt	1.6	0.88	Tan	N	0.30-0.50 phr <sup>3</sup>	
<b>Potential end user advantages:</b>		RL-830	57°C 164°F	8 cSt	1.5	0.88	Light Tan	N	0.50-1.50 phr <sup>3</sup>	
		Reduced line adjustments	PS-1650	N/A	100 cSt	2.5	0.95	Light Tan	N	0.80-2.50 phr <sup>3</sup>
	Enhanced surface appearance	PS-1800	N/A	200 cSt	2.5	0.95	Tan	Y	0.65-1.15 phr <sup>3</sup>	
Reduced screw marks and wavy pipe	<b>Smart-Pak® Lubricant Packages</b>	Congealing Point	Viscosity @ 99°C (210°F)	Acid # (mg KOH/g)	Specific Gravity	Color	NSF/PPI Status <sup>2</sup>	Usage Level Range		
Reduced scrap rates		TLP-2030	N/A	30 cSt	10	0.93	Slightly Yellow	Y	0.40-2.20 phr <sup>3</sup>	
Improved production rates		TLP-2620	N/A	70 cSt	9	0.93	Slightly Yellow	Y	0.65-2.30 phr <sup>3</sup>	
Improved dimensional stability	FLP-3540	N/A	110 cSt <sup>1</sup>	19	0.95	Slightly Yellow	N	3.00-3.50 phr <sup>3</sup>		
Reduced operating costs	<b>High Performance Lubricant™ Packages</b>	Congealing Point (°F)	Viscosity @ 99°C (210°F)	Acid # (mg KOH/g)	Color	NSF/PPI Status <sup>2</sup>	Usage Level Range			
<b>Potential end user advantages:</b>		HPL-6005	175-185	35-45 cSt	N/A	Off White	N	0.2-1.0 phr <sup>3</sup>		
		HPL-6050	N/A	30-40 cSt <sup>4</sup>	6.0-8.0	Off White	N	0.2-1.0 phr <sup>3</sup>		
		HPL-6060	220-230	20-30 cSt <sup>5</sup>	2.5-3.5	Off White	N	0.2-1.0 phr <sup>3</sup>		
		HPL-6080	170-180	25-35 cSt	N/A	Off White	N	0.2-1.0 phr <sup>3</sup>		
		HPL-6273	162-175	18.5-25 cSt	2.5-4.5	Off White	N	1.0-2.0 phr <sup>3</sup>		

### Packaging/Shipping

RHEOCHEM® lubricants are in prilled form and typically supplied in 55 lb. kraft bags. Products in bags are shipped on pallets, 40 bags to a pallet, net weight 2,204 lbs, and stretched-wrapped. Pallet loads are approximately 51 inches long, 44 inches wide and up to 57 inches high depending on product and bulk density. Special packaging is available to meet customer requirements.

1. Viscosity at 240°F (116°C)  
2. NSF International/Plastics Pipe Institute  
3. Parts per hundred resin  
4. Viscosity at 240°F (116°C)  
5. Viscosity at 260°F (127°C)