

# Fire safety solutions

 ALBEMARLE®

2010-11 PRODUCT SELECTOR GUIDE



## New for Fall 2010: GreenArmor™


Premium fire safety and environmental performance

Albemarle is proud to offer a breakthrough flame retardant technology that saves lives, protects property and preserves the environment. GreenArmor is a top-performance fire safety alternative for broad resin application profiles. It's a non-toxic, recyclable and nonbioaccumulative solution, meaning the chemical is too large to be absorbed by the body or animal life. And GreenArmor is a highly stable product that lends itself to efficient plastics recycling.

- ▶ **Stays fire-safe after products are recycled.** GreenArmor tested very well in this important area, a crucial factor in the success of sustainability initiatives.
- ▶ **Remains eco-friendly when exposed to harsh environments.** Exposing electronics and other fire safety-protected property to outdoor storage or hot, humid environments for extended periods of time can challenge some solutions and dramatically impact the results of recycling. Materials containing GreenArmor were virtually unaffected by these conditions and displayed excellent recyclability.
- ▶ **Supports VECAP practices and green chemistry principles.** When combined with the good practices by other reduction efforts like VECAP (Voluntary Emissions Control Action Programme, of which Albemarle is an active member), you can be confident that emissions are truly minimal.



CONNECT WITH US



**It's just the beginning.** GreenArmor is the first product developed, manufactured and marketed under Albemarle's new **Earthwise™ Fire Safety and Polymers** brand. Earthwise products demand a rigorous focus on sustainability and eco-friendliness—above and beyond criteria set for existing commercial products, including bioaccumulation, toxicity, recycle capability, carbon footprint and other critical environmental metrics. Albemarle environmental researchers are hard at work developing additional Earthwise-branded products that meet our customers' needs while saving lives and protecting the planet. Learn more at [EarthwiseInside.com](http://EarthwiseInside.com).

## Brands trusted for exceptional fire safety

Albemarle fire safety products help save lives and protect property while leading the industry through sustainable manufacturing, excellent stewardship practices and continuous technological innovation. Today, plastics molders, wire and cable compounders, and textile and foam manufacturers the world over rely on our products and applications development to add life-saving properties to their materials—and so can you. Backed by our proven expertise in flame retardant chemistry and fire safety, you can count on the most innovative, effective and environmentally sound solutions for your fire protection needs.

### PRODUCT LINES

#### **Earthwise™**

A family of products that follow strict environmental-friendly standards, along with practicing green chemistry principles

#### **SAYTEX®**

Bromine-based flame retardants for electronic enclosures, electronic and electrical components, insulation foams and textiles

#### **NcendX™**

Phosphorus-based flame retardants for electronic enclosures

#### **Antiblaze®**

Phosphorous-based flame retardants for rigid and flexible polyurethane foams, coatings, adhesives, sealants and elastomers

#### **MARTINAL®**

Aluminum hydroxide-based flame retardants for wire and cable, electronic and electrical components, textiles and building materials

#### **MAGNIFIN®**

Magnesium hydroxide-based flame retardants for wire and cable, electronic and electrical components, and building materials



Applications	GreenArmor*	SAYTEX 8010 8010ZD	SAYTEX 102E	SAYTEX BT-93 BT-93W	SAYTEX HP-900P HP-900G	SAYTEX HP-7010P/G HP-3010	SAYTEX 621	SAYTEX CP-2000	SAYTEX RB-49	SAYTEX RB-79 RB-BLEND	NcendX P-30	Antiblaze 117 HF	Antiblaze 80/81/LS-500	Antiblaze V490	Antiblaze V66/V650/V610 TL-10- ST	Antiblaze 195/190/180 RX35 WR30-LV	Antiblaze VE95/VE96/VE97 Visco Elastic	Antiblaze BK69/FL76	MARTINAL ON-310 ON-313 ON-320 ON-4608	MARTINAL OL-104 LEO OL-107 LEO OL-111 LE	MARTINAL ON-901 ON-904 ON-906 ON-908 ON-914 ON-921 ON-935	MARTINAL OL-104 IO OL-107 IO	MARTINAL OL-104 ZO OL-107 ZO	MARTINAL OL-104 GO OL-104 C OL-107 C	MAGNIFIN H-5 H-7 H-10	MAGNIFIN H-5 IV H-10 IV	MAGNIFIN H-5 A H-10 A	MAGNIFIN H-5 GV H-5 HV H-5 MV H-10 MV			
<b>Solid Thermoplastics</b>																															
ABS	█	█	█	█				█																							
HIPS	█	█	█	█	█																										
Polyamide	█	█	█			█																				█					
High-Temperature Polyamide						█																									
Thermoplastics Polyester	█	█	█	█		█	█																								
Polycarbonate	█	█	█	█		█		█			█																				
Polypropylene	█	█	█	█																						█			█		
Polyethylene	█	█	█	█																	█				█	█			█		
SAN	█	█	█	█																											
Alloys (PC/ABS, HIPS/PPO)	█	█	█	█		█					█																				
Thermoplastic Elastomers	█	█	█	█							█										█				█	█			█		
<b>Foams</b>																															
Extruded Polystyrene					█																										
Expanded Polystyrene					█																										
Rigid Polyurethane										█		█	█	█																	
Flexible Polyurethane												█	█	█	█	█	█	█													
Polyolefin	█	█	█	█																	█				█	█		█	█		
PVC/Nitrile	█	█	█	█																	█				█	█		█	█		
Elastomers	█	█	█	█											█						█				█	█		█	█		
PE and Copolymers	█	█	█	█																	█				█	█		█	█		
<b>Wire and Cable</b>																															
Silicone	█	█	█	█																	█			█	█	█		█			
PVC	█	█	█	█																	█	█			█	█		█			
EPDM	█	█	█	█																	█	█			█	█		█	█		
PP	█	█	█	█																						█		█	█		
TPU	█	█	█	█							█																		█		
PE/EVA	█	█	█	█																	█		█	█	█	█	█	█	█		
<b>Thermosets</b>																															
Epoxy	█	█ <small>8010 ONLY</small>	█	█				█	█												█	█	█			█					
Phenolic	█	█ <small>8010 ONLY</small>	█	█				█	█												█	█	█			█					
Unsaturated Polyester	█	█ <small>8010 ONLY</small>	█	█				█	█												█	█	█			█					
Vinyl Esters	█	█ <small>8010 ONLY</small>	█	█				█	█												█		█								
Acrylic Resins		█ <small>8010 ONLY</small>																			█		█		█			█			
<b>Textiles and Coatings</b>																															
Backcoating	█	█ <small>8010 ONLY</small>	█											█							█	█									
Paints		█ <small>8010 ONLY</small>	█					█					█	█	█						█	█									
Hot Melts	█	█ <small>8010ZD ONLY</small>																			█	█									
Fiber	█			█							█																				
<b>Chemical name</b>	Proprietary polymeric FR	Ethane 1,2 bis (pentabromophenyl)	Decabromo-diphenyl oxide	Ethylenebis-tetrabromophthalimide	Hexabromo-cyclo-dodecane	Polymeric FR Brominated polystyrene	Tetrabromobisphenol-A	Tetrabromophthalic anhydride	Tetrabromophthalic anhydride diester/etheriol	Bisphenol A diphosphate	Proprietary phosphorus-based	Tris (2-chloropropyl) phosphate	Organo-phosphonate ester	Chlorinated di phosphate ester	Tri (2,3-dichloropropyl) phosphate	Proprietary products				Aluminum hydroxide						Magnesium hydroxide					
<b>Form</b>	Pellets	8010: Powder 8010ZD: Pellets	White powder	Yellow or white powder	White powder or granules Off-white granules	White powder or granules	Pellets	White powder	White powder	Amber liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	White powder	White powder	White powder	Coated white powder	Coated white powder	Coated white powder	White powder	Silane-coated white powder	Silane-coated white powder	Coated white powder		

This list features most popular Albemarle flame retardants. Others are available for special applications, and new products are added often. If you have questions about product availability in your region or flame retardant choices for your application, please contact an Albemarle representative at one of the locations listed on the back cover.

Additive █  
Reactive █

## Innovative Options

### GreenArmor™

Eco-friendly fire safety solution

#### BENEFITS:

- High melt flow
- Excellent thermal and color stability
- High gloss
- Great impact strength
- Compliant with ROHS
- Supports VECAP principles

### SAYTEX® HP-3010 PST

Improves processability of FR resins for complex, thin-walled parts

#### BENEFITS:

- Excellent flow for better processability
- Superior color
- Excellent thermal stability
- Excellent melt stability
- Good non-blistering performance
- Improved mechanical properties
- Lower loadings than brominated styrenics

### SAYTEX® 8010 ZD

A unique, patented development that helps Albemarle customers save money, improve the performance of their products and operations, and reduce environmental emissions

### MARTINAL® OL-104 LEO and 107 LEO

A series of fine precipitated ATH with optimized performance

#### BENEFITS:

- Better compounding performance
- Better electrical properties
- Lower compound viscosity
- Better thermal stability
- Higher bulk density and better flow after conveying

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