

Silquest™ PA-1

Product Description

Silquest PA-1 is a processing aid that is specially designed for polyolefins processing. At low dosage level, it can be effective to enhance material processability, eliminate melt fracture, reduce die pressure, reduce die build-up & die drool, and increase output of polyolefins. Silquest PA-1 is approved for food contact application in the US, EU, China, Japan (See Food Contact Compliance section for more information).

Physical Property	Value
Physical State	Liquid
Color	Colorless
Viscosity at 25 °C [cST]	1100
Actives [%]	100
Solubility in Water	Insoluble

Typical properties are average data and are not to be used as or to develop specifications.

Key Features and Typical Benefits of Silquest PA-1:

- **Food Contact Acceptance:** Widely accepted for use in polyolefin film applications that involve food contact.
- **Processability:** Improves processability of polyolefin resins. Easily and accurately metered in open or closed systems. No residue buildup or accumulation of processing aid on metal surfaces
- **Economical:** Effective at 500-1000 ppm levels. Can eliminate the need for metal stearates. Reduced wear extends the service life of existing equipment; new investment is postponed due to increased productivity of existing equipment.
- **Versatility:** Can be used as a liquid additive, as a solid formulated into a carrier resin (in masterbatches), or as an ingredient in multi-component additive packages.
- **Increased Production:** Throughput on modified extrusion equipment can be significantly increased. Scrap rates are lowered and processability is improved. Performance benefits usually become apparent 10 to 15 minutes after the additive is introduced.
- **Improved Products & Surface Characteristics:** Melt fracture on blown film can be eliminated. Effective on many HMW-HDPE products that are difficult to use.
- **Printability:** No adverse effect on ink adhesion, heat sealing or film blocking.

Performance Validation:

Figure 1 shows that using 1000 ppm Silquest™ PA-1 can improve process throughput (left) and energy efficiency (right) in LLDPE & HDPE extrusion. For LLDPE, the usage of Silquest™ PA-1 eliminated melt fracture during blown film processing.

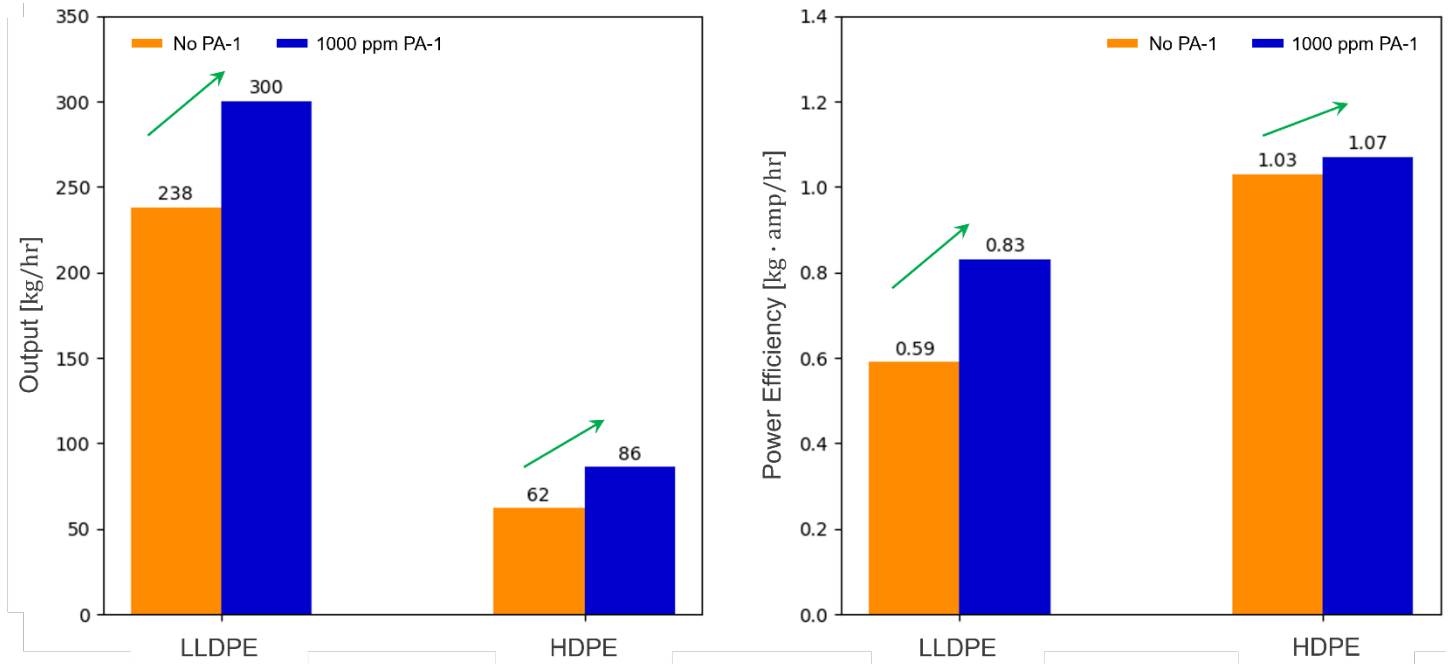


Figure 1 | Equipment configurations: (HDPE) 25:1 L:D screw, 150mm diameter die, 1.4mm die gap. Conditions: 32-micron film gauge, 3:1 BUR, 700 mm lay flat, Resin = 0.3 MI, 960 kg/m³ density HDPE. (LLDPE) Equipment configurations: 24:1 L:D screw, 760mm diameter die (low pressure spider die), 1.5mm die gap. Conditions: 76-micron film gauge, 2:1 BUR, Resin: 0.5 MI, 918 kg/m³ density C2/C4 LLDPE

Note: Test data. Actual results may vary.

Food Contact Compliance:

United States	NON-FOOD APPLICATIONS: Compositionally compliant at all dosages. FOOD APPLICATIONS: Max dosage of 0.3% dosage in the final article. FDA B-H compliance up to 0.3% loading in the final article.
European Union	NON-FOOD & FOOD APPLICATIONS: Compositionally compliant at all dosages. <i>As long as the cyclics are only impurities (not 'intentionally added substances') there normally is no problem for Food Contact in EU/BfR.</i>
China	NON-FOOD APPLICATIONS: Compositionally compliant at all dosages. FOOD APPLICATIONS: Max dosage of 0.3% dosage in the final article. <i>The composition of active ingredients of PA-1 meets China Food contact requirement for plastic application with Max dosage of 0.3% in PP and PE.</i>
Japan	NON-FOOD & FOOD APPLICATIONS: Currently compositionally compliant at all dosages. Status subject to evolving regulations.
Mercosur	NON-FOOD & FOOD COMPLIANCE: Compositionally compliant at all dosages.

Shelf Life:

Silquest PA-1 should be stored in closed containers to exclude moisture. When stored under these conditions, its shelf life is approximately three years (see SDS for additional information).

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

Customer Service Centers

For additional information, please contact our Customer Service Team

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