



# AMPLIFY™ TY 1151

The Dow Chemical Company - Functional Polymer

Sunday, November 3, 2019

## General Information

### Product Description

AMPLIFY™ TY 1151 Functional Polymer is a maleic anhydride grafted (MAH) polymer intended for use in blends. In tie layers for flexible packaging, AMPLIFY TY 1151 Functional Polymer promotes adhesion of Polyethylene to barrier polymers such as polyamide and ethylene vinyl alcohol (EVOH) and other polar substrates.

Typical blending levels in polyethylene let-down resin are 30-40% for adhesion to EVOH and 15-25% for adhesion to nylon.

### Main Characteristics:

- Excellent adhesion to polyamide and EVOH and polyethylene
- Excellent physical properties
- Wide range of process and service temperature
- For blown and cast film, and coating applications

### Complies with:

- U.S. FDA 21 CFR 175.105(c)(5)
- U.S. FDA 21 CFR 176.170(b)(2)
- U.S. FDA 21 CFR 176.180(b)(1)
- U.S. FDA 21 CFR 177.1520(with restrictions)

Consult the regulations for complete details.

### General

|                 |                                              |                                               |            |
|-----------------|----------------------------------------------|-----------------------------------------------|------------|
| Material Status | • Commercial: Active                         |                                               |            |
| Availability    | • Asia Pacific<br>• Europe                   | • Latin America<br>• North America            |            |
| Additive        | • Antiblock: No                              | • Processing Aid: No                          | • Slip: No |
| Agency Ratings  | • FDA 21 CFR 175.105<br>• FDA 21 CFR 176.170 | • FDA 21 CFR 176.180<br>• FDA 21 CFR 177.1520 |            |
| Forms           | • Pellets                                    |                                               |            |

## ASTM & ISO Properties <sup>1</sup>

| Physical                                | Nominal Value | Unit              | Test Method     |
|-----------------------------------------|---------------|-------------------|-----------------|
| Density                                 | 0.920         | g/cm <sup>3</sup> | ASTM D792       |
| Melt Mass-Flow Rate (190°C/2.16 kg)     | 2.5           | g/10 min          | ASTM D1238      |
| MAH Graft Level <sup>2</sup>            | Medium        |                   | Internal Method |
| Mechanical                              | Nominal Value | Unit              | Test Method     |
| Tensile Strength <sup>3</sup> (Yield)   | 1740          | psi               | ASTM D638       |
| Tensile Strength <sup>3</sup> (Break)   | 1740          | psi               | ASTM D638       |
| Tensile Elongation <sup>3</sup> (Break) | 800           | %                 | ASTM D638       |
| Flexural Modulus <sup>3</sup>           | 40000         | psi               | ASTM D790       |
| Thermal                                 | Nominal Value | Unit              | Test Method     |
| Vicat Softening Temperature             | 207           | °F                | ASTM D1525      |
| Melting Temperature (DSC)               | 255           | °F                | Internal Method |

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### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

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<sup>2</sup> Low: <0.25 wt%, Medium 0.25-0.5, High >0.5 wt%

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<sup>3</sup> Molded in accordance with ASTM D4976.