# Alkamax® ML 1810PN

### Metallocene Linear Low Density Polyethylene

Qenos Pty Ltd

#### Message:

Alkamax ML1810PN is a metallocene linear low density polyethylene copolymer. This metallocene grade has excellent processability permitting higher production rates. It is designed for high performance film applications requiring maximum toughness and excellent sealing performance. Alkamax ML1810PN is formulated with a process aid and process stabilisation package. It does not contain slip or antiblocking additives. Alkamax ML1810PN is intended for applications requiring high performance polyethylene resins. Films produced with Alkamax ML1810PN have outstanding toughness, making this grade ideal for use in heavy duty applications or for downgauging existing film structures. In addition, the high performance sealing and hot tack properties of this grade combined with its excellent optical properties make it ideal for lamination and form, fill and seal films. It has been designed for processing on a wide range of blown film extrusion equipment. Addition of a UV stabiliser should be considered where the intended application involves intermittent to extended exposure to sunlight.

| General Information                          |                             |          |             |  |  |
|--|-----------------------------|----------|-------------|--|--|
| Additive                                     | Processing Aid              |          |             |  |  |
| Features                                     | Copolymer                   |          |             |  |  |
|  | Food Contact Acceptable     |          |             |  |  |
|  | Good Processability         |          |             |  |  |
|  | Good Processing Stability   |          |             |  |  |
|  | Good Toughness              |          |             |  |  |
|  | Low Density                 |          |             |  |  |
|  | Very Broad Seal Range       |          |             |  |  |
| Uses   | Film                        |          |             |  |  |
|  | Laminates                   |          |             |  |  |
|  |                             |          |             |  |  |
| Agency Ratings                               | AS 2070-1999                |          |             |  |  |
|  | FDA 21 CFR 177.1520(c) 3.1a |          |             |  |  |
| Dragoscing Mathod                            | Film Extrusion              |          |             |  |  |
| Processing Method                            |                             |          |             |  |  |
| Physical                                     | Nominal Value               | Unit     | Test Method |  |  |
| Density                                      | 0.918                       | g/cm³    | ASTM D1505  |  |  |
| Melt Mass-Flow Rate (MFR) (190°C/2.16<br>kg) | 1.0                         | g/10 min | ASTM D1238  |  |  |
| Films  | Nominal Value               | Unit     | Test Method |  |  |
| Film Thickness - Tested                      | 50                          | μm       |             |  |  |
| Secant Modulus <sup>1</sup>                  |                             |          | ASTM D882   |  |  |
| 2% Secant, MD : 50 µm                        | 183                         | MPa      |             |  |  |
| 2% Secant, TD : 50 µm                        | 190                         | MPa      |             |  |  |
| Tensile Strength <sup>2</sup>                |                             |          | ASTM D882   |  |  |
| MD : Yield,50 µm                             | 11.0                        | MPa      |             |  |  |
| TD : Yield,50 µm                             | 11.0                        | MPa      |             |  |  |
| MD : Break, 50 µm                            | 50.0                        | MPa      |             |  |  |

| TD : Break, 50 µm               | 46.0               | MPa  |             |
|---------------------------------|--------------------|------|-------------|
| Tensile Elongation <sup>3</sup> |                    |      | ASTM D882   |
| MD : Break, 50 µm               | 790                | %    |             |
| TD : Break, 50 µm               | 820                | %    |             |
| Dart Drop Impact <sup>4</sup>   | > 1500             | g    | ASTM D1709  |
| Elmendorf Tear Strength         |                    |      | ASTM D1922  |
| MD : 50 µm                      | 580                | g    |             |
| TD : 50 μm                      | 660                | g    |             |
| Optical                         | Nominal Value      | Unit | Test Method |
| Gloss <sup>5</sup> (45°)        | 64                 |      | ASTM D2457  |
| Haze <sup>6</sup> (50.0 µm)     | 11                 | %    | ASTM D1003  |
| NOTE                            |                    |      |             |
| 1.                              | 20 mm/min          |      |             |
| 2.                              | 500 mm/min         |      |             |
| 3.                              | 500 mm/min         |      |             |
| 4.                              | F50                |      |             |
| 5.                              | (10% LDPE blended) |      |             |
| 6.                              | (10% LDPE blended) |      |             |
|                                 |                    |      |             |

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