# Diamond ABS 9501

## Acrylonitrile Butadiene Styrene

Network Polymers, Inc.

#### Message:

Diamond ABS 9501 is an Acrylonitrile Butadiene Styrene (ABS) product. It can be processed by injection molding and is available in North America. Characteristics include:

Flame Rated

**REACH Compliant** 

**RoHS Compliant** 

WEEE Compliant

Impact Resistant

| General Information                                   |                              |          |                         |
|---|------------------------------|----------|-------------------------|
| UL YellowCard   | E51193-101898806             |          |                         |
| Features  | Ultra High Impact Resistance |          |                         |
| Agency Ratings  | EC 1907/2006 (REACH)         |          |                         |
|   | EU 2002/96/EC (WEEE)         |          |                         |
| RoHS Compliance                                       | RoHS Compliant               |          |                         |
| UL File Number  | E119088                      |          |                         |
| Appearance  | Colors Available             |          |                         |
| Forms   | Pellets                      |          |                         |
| Processing Method                                     | Injection Molding            |          |                         |
| Physical  | Nominal Value                | Unit     | Test Method             |
| Specific Gravity                                      | 1.04                         | g/cm³    | ASTM D792               |
| Melt Mass-Flow Rate (MFR) <sup>1</sup> (200°C/5.0 kg) | 0.40 to 1.2                  | g/10 min | ASTM D1238              |
| Molding Shrinkage - Flow                              | 0.40 to 0.60                 | %        | ASTM D955               |
| Hardness  | Nominal Value                | Unit     | Test Method             |
| Rockwell Hardness (R-Scale)                           | 100                          |          | ASTM D785               |
| Mechanical  | Nominal Value                | Unit     | Test Method             |
| Tensile Strength <sup>2</sup> (Yield)                 | 36.5                         | MPa      | ASTM D638               |
| Flexural Modulus - Tangent <sup>3</sup>               | 1860                         | MPa      | ASTM D790               |
| Impact  | Nominal Value                | Unit     | Test Method             |
| Notched Izod Impact (23°C, 3.18 mm)                   | 450                          | J/m      | ASTM D256               |
| Thermal   | Nominal Value                | Unit     | Test Method             |
| Deflection Temperature Under Load                     |                              |          | ASTM D648               |
| 1.8 MPa, Unannealed, 3.18 mm                          | 76.1                         | °C       |                         |
| 1.8 MPa, Annealed, 3.18 mm                            | 92.8                         | °C       |                         |
| Vicat Softening Temperature                           | 105                          | °C       | ASTM D1525 <sup>4</sup> |
| Flammability  | Nominal Value                |          | Test Method             |
|   |                              |          | UL 94                   |

| Injection              | Nominal Value    | Unit |
|------------------------|------------------|------|
| Drying Temperature     | 80.0 to 85.0     | °C   |
| Drying Time            | 2.0 to 4.0       | hr   |
| Suggested Max Moisture | 0.10             | %    |
| Rear Temperature       | 190 to 250       | °C   |
| Middle Temperature     | 190 to 250       | °C   |
| Front Temperature      | 190 to 250       | °C   |
| Mold Temperature       | 40.0 to 80.0     | °C   |
| Injection Rate         | Moderate-Fast    |      |
| NOTE                   |                  |      |
| 1.                     | Procedure A      |      |
| 2.                     | 51 mm/min        |      |
| 3.                     | 1.3 mm/min       |      |
| 4.                     | Loading 1 (10 N) |      |

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