# Cosmic DAP D69/6130

### **Diallyl Phthalate**

#### Cosmic Plastics, Inc.

#### Message:

#### DESCRIPTION

Cosmic D69 / 6130 is a long glass fiber filled, general purpose diallyl ortho phthalate molding compound which is supplied in a flake form. It can be easily molded in compression or transfer equipment and can be readily preformed for ease in handling. It can be stored at room temperature for two years without reducing performance.

#### FEATURES

D69 / 6130 combines the advantages of high impact strength, high insulation resistance, excellent compressive and flexural strength, and easy moldability.

#### APPLICATIONS

Structural parts, housings, terminals and insulators, or other applications requiring strength.

| General Information                               |                           |       |
|---|---------------------------|-------|
| Filler / Reinforcement                            | Long Glass Fiber          |       |
| Features  | General Purpose           |       |
|   | Good Compressive Strength |       |
|   | Good Moldability          |       |
|   | High Impact Resistance    |       |
|   | Orthophthalic             |       |
|   |                           |       |
| Uses  | General Purpose           |       |
|   | Housings                  |       |
|   | Insulation                |       |
|   | Structural Parts          |       |
|   |                           |       |
| Agency Ratings                                    | ASTM D 5948, Type GDI-30  |       |
|   | MIL M-14, Type GDI-30     |       |
| Forms   | Flakes                    |       |
| Processing Method                                 | Compression Molding       |       |
| Frocessing Method                                 |                           |       |
|   | Resin Transfer Molding    |       |
| Physical  | Nominal Value             | Unit  |
| Specific Gravity                                  | 1.72                      | g/cm³ |
| Bulk Factor                                       | 6.0                       |       |
| Molding Shrinkage - Flow                          | 0.10 to 0.40              | %     |
| Dimensional Stability                             | < 0.010                   | %     |
| Water Absorption <sup>1</sup> (Equilibrium, 50°C) | 0.30                      | %     |
| Mechanical  | Nominal Value             | Unit  |
| Tensile Strength                                  | 41.4 to 68.9              | MPa   |
| Flexural Strength                                 | 89.6 to 117               | MPa   |

| Compressive Strength             | 165 to 207              | МРа                      |  |
|----------------------------------|-------------------------|--------------------------|--|
| Impact                           | Nominal Value           | Unit                     |  |
| Notched Izod Impact              | 160 to 320              | J/m                      |  |
| Thermal                          | Nominal Value           | Unit                     |  |
| CLTE - Flow (-40 to 100°C)       | 2.4E-5                  | cm/cm/°C                 |  |
| Heat Distortion                  | 260                     | °C                       |  |
| Dielectric Breakdown             |                         |                          |  |
| Dry                              | 62000                   | V                        |  |
| Wet                              | 60000                   | V                        |  |
| Water Extract Conductivity       | 30.0                    | μS/cm                    |  |
| Electrical                       | Nominal Value           | Unit                     |  |
| Surface Resistivity              |                         |                          |  |
| <sup>2</sup>                     | 5.0E+10                 | ohms                     |  |
| 3                                | > 1.0E+16               | ohms                     |  |
| Volume Resistivity               |                         |                          |  |
| 4                                | 5.0E+10                 | ohms·cm                  |  |
| 5                                | > 1.0E+16               | ohms·cm                  |  |
| Dielectric Strength <sup>6</sup> |                         |                          |  |
| Dry                              | 16                      | kV/mm                    |  |
| Wet                              | 14                      | kV/mm                    |  |
| Dielectric Constant              |                         |                          |  |
| 1 kHz <sup>7</sup>               | 4.20                    |                          |  |
| 1 kHz <sup>8</sup>               | 4.00                    |                          |  |
| 1 MHz <sup>9</sup>               | 4.10                    |                          |  |
| 1 MHz <sup>10</sup>              | 3.90                    |                          |  |
| Dissipation Factor               |                         |                          |  |
| 1 kHz <sup>11</sup>              | 9.0E-3                  |                          |  |
| 1 kHz <sup>12</sup>              | 6.0E-3                  |                          |  |
| 1 MHz <sup>13</sup>              | 0.015                   |                          |  |
| 1 MHz <sup>14</sup>              | 0.013                   |                          |  |
| Arc Resistance                   | 180                     | sec                      |  |
| Injection                        | Nominal Value           | Unit                     |  |
| Processing (Melt) Temp           | 135 to 190              | °C                       |  |
| Injection Pressure               | 3.45 to 55.2            | МРа                      |  |
| NOTE                             |                         |                          |  |
| 1.                               | 48 hrs                  | 48 hrs                   |  |
| 2.                               | 30 days @ 100% RH @ 70% | 30 days @ 100% RH @ 70°C |  |
| 3.                               | As Is                   |                          |  |
| 4.                               | 30 days @ 100% RH @ 70% | 30 days @ 100% RH @ 70°C |  |
| 5.                               | As Is                   |                          |  |
| 6.                               | Method B (Step-by-Step) |                          |  |
| 7.                               | Wet                     |                          |  |

| 8.  | Dry |
|-----|-----|
| 9.  | Wet |
| 10. | Dry |
| 11. | Wet |
| 12. | Dry |
| 13. | Wet |
| 14. | Dry |

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## Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

