

## Primacure® Product Range

### Chain Extenders and Curing Agents



#### Composite Materials

Primacure® products are high quality components utilized as chain extenders or as curatives. Primacure® products are easy to combine together with polyurea, polyurethane or epoxy resins.

Primacure® products offer beneficial mechanical performance and chemical resistance at a low level of toxicity resulting in less worker risk in industrial settings with routine exposure controls as outlined in our Safety Data Sheet (SDS). As epoxy hardeners they provide improved use temperatures, moisture absorption and impact resistance.

## Primacure® - High Performance Materials

| Products              | Appearance      | Melting point | H <sup>+</sup> active equivalent | Viscosity @90°C | Pot life @90°C up to 1000 mPa <sup>(1)</sup> | Geltime @ 150°C <sup>(1)</sup> |
|-----------------------|-----------------|---------------|----------------------------------|-----------------|--|--------------------------------|
|                       |                 |               |                                  |                 | [°C]   | [g / eg]                       |
| Primacure® DETDA-80   | Liquid          | -15           | 45                               | 5               | 160  | 13                             |
| Primacure® L-15       | Liquid          | <0            | 61                               | 20              | 182  | 27                             |
| Primacure® M-DEA      | Crystal. powder | 88            | 78                               | 20              | 155  | 43                             |
| Primacure® M-CDEA     | Solid, powder   | 88            | 95                               | 235             | 985  | 130                            |
| Primacure® M-MIPA     | Solidified melt | 72            | 78                               | 40              | 262  | 38                             |
| Primacure® M-DIPA     | Solidified melt | 61            | 94                               | 40              | 340  | 60                             |
| Primacure® P-25i      | Liquid          | 35            | 56                               | 30              | 330  | 199                            |
| M-DEA/DETDA (80:20)   | Solidified melt | In progress   | 71                               | 15              | 155  | 37                             |
| M-MIPA/DETDA (50:50)  | Solidified melt | In progress   | 61                               | 20              | 210  | 25                             |
| M-MIPA/M-DIPA (50:50) | Solidified melt | In progress   | 86                               | 40              | 300  | 50                             |
| M-MIPA/M-CDEA (50:50) | Solidified melt | In progress   | 86                               | 135             | 620  | 85                             |

(1): with epoxy resin EEW 180 – 190 g / eq and cure cycle: 2h@130C + 2h@190C

Sources: Arxada internal measurements and third party data for equivalent / similar chemistries on file

| Products              | Tg <sup>(1,2)</sup> [°C] | Water absorp. <sup>(1)</sup> @ 70°C 28 days [%] | H <sub>2</sub> SO <sub>4</sub> absorption 30% (28 days) [%] | Tensile strength Modulus |              | Tensile elongation @ RT [%] | Toughness K <sub>1C</sub> <sup>(1)</sup> [MN*m <sup>-3/2</sup> ] | Compre-<br>ssion modulus [MPa] | Uniaxial Compre-<br>ssion strength [MPa] |
|-----------------------|--------------------------|---|---|--------------------------|--------------|-----------------------------|--|--------------------------------|--|
|                       |                          |   |   | Modulus [GPa]            | Strength [%] |                             |  |                                |  |
| Primacure® DETDA-80   | 204                      | 2.3   | 0.84  | 43                       | 2.5          | 2.3                         | 0.6  | N/A                            | N/A                                      |
| Primacure® L-15       | 181                      | 2   | 0.93  | 57                       | 2.4          | 3.4                         | 0.8  | N/A                            | N/A                                      |
| Primacure® M-DEA      | 177                      | 1.5   | 0.65  | 45                       | 2.3          | 3.2                         | 0.7  | N/A                            | N/A                                      |
| Primacure® M-CDEA     | 191                      | 1.8   | 0.92  | 50                       | 2.4          | 2.9                         | 0.7  | N/A                            | N/A                                      |
| Primacure® M-MIPA     | 198                      | 1.8   | 0.87  | 48                       | 2.7          | 2.2                         | 0.5  | N/A                            | N/A                                      |
| Primacure® M-DIPA     | 192                      | 1.8   | 0.91  | 52                       | 2.4          | 3.6                         | 0.6  | N/A                            | N/A                                      |
| Primacure® P-25i      | 200                      | 2.1   | 0.75  | 67                       | 2.6          | 4.8                         | 0.6  | N/A                            | N/A                                      |
| M-DEA/DETDA (80:20)   | 180                      | N/A   | N/A   | 66                       | 2.3          | 6.5                         | 0.7  | 2235                           | 93                                       |
| M-MIPA/DETDA (50:50)  | 200                      | N/A   | N/A   | 76                       | 2.6          | 6.0                         | 0.6  | 2520                           | 112                                      |
| M-MIPA/M-DIPA (50:50) | 195                      | N/A   | N/A   | 73                       | 2.4          | 6.0                         | 0.6  | 2520                           | 110                                      |
| M-MIPA/M-CDEA (50:50) | 194                      | N/A   | N/A   | 73                       | 2.6          | 5.3                         | 0.6  | 2540                           | 112                                      |

(1): with epoxy resin EEW 180 – 190 g / eq and cure cycle: 2h@130C + 2h@190C

(2): tan δ by DMA

(3): Elongation @ maximum tensile strength in accordance with ISO 5271h @ 260°C

Sources: Arxada internal measurements and third-party data for equivalent / similar chemistries on file



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