

Pyrolysis yield of Polyramic® SPR-212



POLYMER-TO-CERAMIC™ TECHNOLOGY

Effect of Catalysts and Initiators on the Pyrolysis Yield of SPR-212

Polyramic® SPR-212 is a liquid precursor to thermally stable silicon oxycarbide ceramics. Various catalysts and initiators can be added to SPR-212 to improve the pyrolysis yield. Figure 1 shows the pyrolysis yield at 850°C for SPR-212 with various amounts of dicumyl peroxide. Figure 2 shows the pyrolysis yield at 850°C for SPR-212 with various amounts of platinum catalyst. Other platinum catalysts, organic peroxides and free radical initiators suitable for silicones with similar functionalities may also be used.

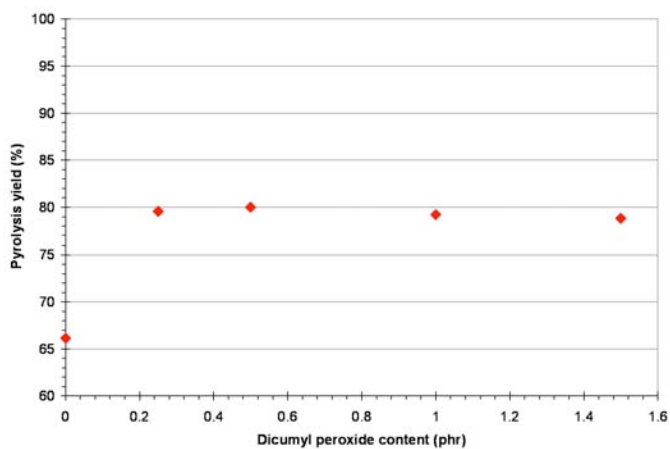


Figure 1 Pyrolysis yield at 850°C for Polyramic® SPR-212 with various amounts of dicumyl peroxide.

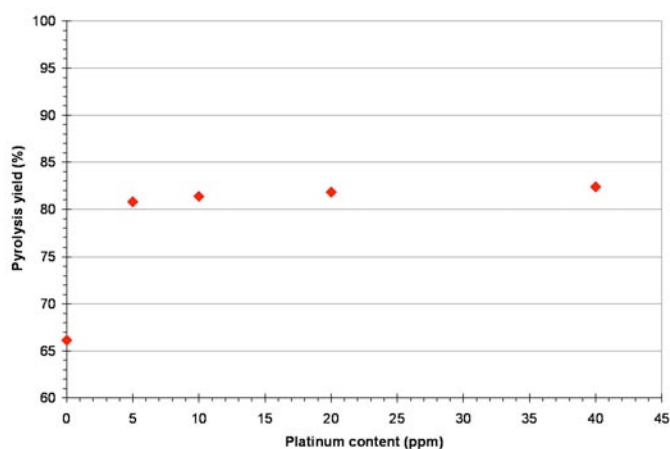


Figure 2 Pyrolysis yield at 850°C for Polyramic® SPR-212 with various amounts of platinum catalyst.

¹ Pyrolysis profile: 1°C/min to 850°C with a 1 hour hold at 850°C in flowing nitrogen.

² Dicumyl peroxide was added as a 50 wt% solution in toluene.

³ Platinum catalyst is CAT-776, available from Starfire Systems, Inc.

Warranty

No analysis of this product is permitted. The data provided relates only to the material identified above, as supplied by Starfire Systems®, Inc. (SSI). Because conditions and methods of use of our products are beyond our control, this information should not be used as a substitution for customer's tests to ensure that SSI's products are safe, effective, and fully satisfactory for the intended end use. SSI's sole warranty is that the product will meet sales specifications in effect at the time of shipment.