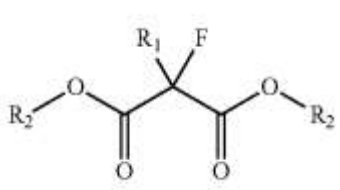
CLAIMS

1. A procatalyst composition comprising:

a magnesium moiety;

a titanium moiety; and

an internal electron donor comprising a 2-fluoro-malonate with the structure (II)



(II)

wherein R_1 is a cyclopentyl group; and

R_2 is selected from the group consisting of a C_1-C_{20} primary alkyl group and a substituted or unsubstituted C_2-C_{20} 1-alkenyl group.

2. A catalyst composition comprising:

a procatalyst composition of claim 1;

a cocatalyst; and

optionally, an external electron donor.

3. The catalyst composition of claim 2 wherein the external electron donor is selected from the group consisting of dicyclopentyldimethoxysilane, n-propyltrimethoxysilane and combinations thereof.

4. The procatalyst composition of claim 1 wherein the internal electron donor comprises diethyl 2-cyclopentyl-2-fluoro-malonate.

5. The procatalyst composition of claim 1 wherein the 2-fluoro-malonate is a compounded 2-fluoro-malonate.

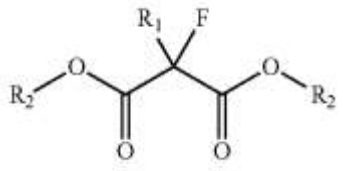
6. The procatalyst composition of claim 1 comprising greater than 5 wt % of the 2-fluoro-malonate.

7. The procatalyst composition of claim 1 wherein the internal electron donor is a mixed internal electron donor comprising the 2-fluoro-malonate and an electron donor component.

8. The procatalyst composition of claim 7 wherein the electron donor component is selected from the group consisting of ethyl acetate and bis(benzoyloxy)dimethylsilane.

9. The procatalyst composition of claim 2 comprising the external electron donor and an activity limiting agent.

10. A polymeric composition comprising: a propylene-based polymer comprising a 2-fluoro-malonate with the structure (II)



(II)

wherein R_1 and R_2 are the same or different;

wherein R_1 is a cyclopentyl group;

R_2 is selected from the group consisting of a C_1-C_{20} primary alkyl group, and a substituted or unsubstituted C_2-C_{20} 1-alkenyl group;

and the propylene-based polymer has a melt flow rate greater than 50 g/10 min measured in acordance with ASTM D 1238-01 test method at 230°C with a 2.16 kg weight.

11. The polymeric composition of claim 10 wherein the propylene-based polymer has a xylene solubles content from 1 wt % to 4 wt %.

12. The polymeric composition of claim 10 wherein the propylene-based polymer is selected from the group consisting of a propylene homopolymer and a propylene copolymer.

13. The polymeric composition of claim 10 wherein the propylene-based polymer is a propylene homopolymer.

14. The polymeric composition of claim 10 comprising an electron donor component.

15. The polymeric composition of claim 10 wherein the propylene-based polymer comprises a member selected from the group consisting of an alkoxysilane, an aliphatic acid ester, and combinations thereof.

16. The polymeric composition of claim 10 wherein the 2-fluoro-malonate comprises diethyl 2-cyclopentyl-2-fluoro-malonate.

17. The polymeric composition of claim 10 comprising an electron donor component.

18. The polymeric composition of claim 17 wherein the electron donor component is selected from the group consisting of ethyl acetate and bis(benzoyloxy)dimethylsilane.

19. The polymeric composition of claim 10 wherein the propylene-based polymer has a final melting point (T_{MF}) greater than 170° C.

20. The polymeric composition of claim 10 wherein the propylene-based polymer is a propylene copolymer.