CLAIMS

What is claimed is:

1. A process of forming a polymer comprising:

supplying a feed having one or more olefin monomers and a solvent;

contacting the feed with a catalyst to form a reaction mixture;

treating the reaction mixture in a first separator to form a first polymer-rich mixture;

introducing the first polymer-rich mixture into a second separator;

introducing a volatile component and/or inert component into the first separator, the second separator and/or a line between the first separator and the second separator;

treating the first polymer-rich mixture to form a second polymer-rich mixture; and

devolatilizing the second polymer-rich mixture to obtain the polymer.

2. The process of claim 1, wherein the volatile component has a boiling point temperature of about -105°C (-157°F) to about 80°C (176°F).

3. The process of claim 2, wherein the volatile component has a boiling point temperature of about 50°C (122°F) to about 75°C (167°F).

4. The process of claim 1, wherein the volatile component or inert component is introduced into the second separator.

5. The process of claim 1, wherein the second separator has a temperature of about 40°C (104°F) to about 160°C (320°F) while treating the first polymer-rich mixture to form the second polymer-rich mixture.

6. The process of claim 5, wherein the second separator has a temperature of from 50°C (122°F) to 75°C (167°F) while treating the first polymer-rich mixture to form the second polymer-rich mixture.

7. The process of claim 1, wherein the second separator has a pressure of about

atmospheric pressure to about 30 Bar(g) while treating the first polymer-rich mixture to form the second polymer-rich mixture.

8. The process of claim 7, wherein the second separator has a pressure of about atmospheric pressure to about 30 Bar(g) while treating the first polymer-rich mixture to form the second polymer-rich mixture.

9. The process of claim 1, wherein the first separator has a pressure of about 2 MPa to about 15 MPa while treating the reaction mixture to form the first polymer-rich mixture.

10. The process of claim 9, wherein the first separator has a pressure of about 2 MPa to about 6 MPa while treating the reaction mixture to form the first polymer-rich mixture.

11. The process of claim 1, wherein the volatile component is isohexane.

12. The process of claim 1, wherein the volatile component is introduced into a lower portion of the first separator and/or second separator.

13. The process of claim 1, wherein a level of volatiles present in the second polymer-rich mixture is less than 25 wt%.

14. The process of claim 1, wherein a level of volatiles present in the second polymer-rich mixture is not greater than about 500 ppm.

15. The process of claim 1, wherein devolatilizing the second polymer-rich mixture is performed in a devolatilizer at a pressure of not greater than 55 mmHg at a temperature of from 150°C to 300°C.

16. The process of claim 1, wherein contacting the feed with the catalyst to form the reaction mixture is performed in a reactor at a pressure of from 8 MPa to 20 MPa.

17. The process of claim 1, further comprising passing the first polymer-rich mixture through a temperature adjustment unit coupled with the first separator at a first end and coupled with the second separator at a second end.

18. The process of claim 1, wherein the polymer is an ethylene-alpha-olefin-diene elastomer.

19. The process of claim 1, wherein treating the first polymer-rich mixture comprises adjusting the temperature of the second polymer-rich mixture to a temperature of from about 40°C to about 160°C.

20. The process of claim 19, wherein the temperature is from about 70°C to about 120°C.