wherein the oil is added to the ethylene-based polymer upstream of the mixer, and the oil has a volatile fraction, at 400°C and atmospheric pressure, less than, or equal to, 2.0 wt%, based on the total weight of the oil, the mixture further comprises a polymerization solvent, the reactor system comprises a line for recycled polymerization solvent, and the recycled polymerization solvent is re-introduced into the at least one reactor.

The disclosure also provides a reactor system for a process to form a composition comprising at least one ethylene-based polymer and at least one oil, said reactor system comprising at least one reactor, at least one mixer, and an oil feed into the ethylene-based polymer, and wherein the oil feed is located after the reactor and before the mixer.

7. The process of any one of the previous claims, wherein the difference between the temperature of the oil and the temperature of at least one reactor ($T_{oil} - T_{reactor}$) is from 50°C to 150°C.

8. The process of any one of the previous claims, wherein the ethylene-based polymer is an ethylene/α-olefin interpolymer.

9. The process of claim 8, wherein the ethylene/α-olefin interpolymer is an ethylene/α-olefin/diene interpolymer, and further an ethylene/α-olefin/diene terpolymer.