

LUBRICANT TREATMENTS FOR FREE-RADICAL POLYMERIZATIONS
ABSTRACT

A process to prepare an ethylene-based polymer, said process comprising
5 polymerizing a mixture comprising ethylene, at a pressure greater than, or equal to, 100 MPa,
in the presence of at least one free-radical initiator; and in a reactor system comprising at
least one reactor and at least one Hyper-compressor, and
wherein at least one oil formulation, optionally comprising one or more lubrication
agents, is added to the Hyper-compressor; and wherein at least one of the following steps
10 takes place:
A) thermally treating the one or more lubrication agents, in an oxygen-free
atmosphere, to achieve a peroxide level ≤ 10 ppm, based on the weight of the
lubrication agent(s), and then adding said agent(s) to the oil formulation, prior to
adding the oil formulation to the Hyper-compressor; or
15 B) thermally treating the oil formulation, in an oxygen-free atmosphere, to
achieve a peroxide level ≤ 10 ppm, based on the weight of the oil formulation, prior to
adding the oil formulation to the Hyper-compressor;
C) a combination of A and B.

20 [No suitable figure]