CLAIMS

1. Process for the polymerisation or copolymerisation of olefins by bringing the said olefins into contact with a catalyst under polymerisation or copolymerisation conditions in a reactor comprising a charge powder, which process comprises, prior to the introduction of the catalyst into the reactor, the introduction of a scavenger into the reactor which reacts with catalyst poison present, wherein the scavenger is added to the reactor until the charge powder comprises a remaining amount of scavenger comprised between 0.1 and 2.5 moles per ton of charge powder.

2. Process for the polymerisation or copolymerisation of olefins by bringing the said olefins into contact with a catalyst under polymerisation or copolymerisation conditions in a reactor, which process comprises, prior to the introduction of the catalyst into the reactor, the introduction of a scavenger into the reactor which reacts with catalyst poison present, wherein the scavenger is added such that the level in the reactor of the product of decomposition of said scavenger and catalyst poison is controlled.

3. Process for the polymerisation or copolymerisation of olefins by bringing the said olefins into contact with a catalyst under polymerisation or copolymerisation conditions in a reactor, which process comprises, prior to the introduction of the catalyst into the reactor, the introduction of a scavenger into the reactor which reacts with catalyst poison present, wherein the addition of the scavenger is performed as a series of sequential injections of scavenger, and said injections are continued until the increase in level in the reactor of the product of decomposition of said scavenger and catalyst poison during an individual addition of the scavenger is less than the expected amount of the product of decomposition corresponding to a complete reaction of all the scavenger added with poison.

4. Process for the polymerisation or copolymerisation of olefins by bringing the said olefins into contact, under polymerisation or copolymerisation conditions in a reactor system, which process comprises, prior to the introduction of the catalytic system in the reactor system:

i) the introduction of a scavenger into the reactor system which reacts with the catalyst poison present, and

ii) subsequently introducing a catalyst poison into the reactor system, wherein the catalyst poison is water, and the scavenger addition is performed after the introduction of the charge powder into the reactor.

5. Process according to claim 2 or claim 3 wherein the scavenger addition is performed after the introduction of the charge powder, preferably the olefin polymer charge powder, into the reactor.

6. Process according to any of claims 2 to 5 wherein the remaining amount of scavenger (unreacted) is preferably comprised between 0.1 and 2.5 moles per ton of charge powder.

7. Process according to any of the preceding claims wherein the remaining amount of scavenger (unreacted) is comprised between 0.3 and 2 moles per ton of charge powder.

8. Process according to claim 1 or claim 4 wherein the charge powder is an olefin polymer charge powder.

9. Process according to any of claims 1 to 3 wherein the catalyst poison is water.

10. Process according to any of the preceding claims wherein the scavenger is selected from the group consisting of trialkyl metals (e.g. Triethylaluminium (TEA) and/or Triethylborane (TEB) and/or Triisobutylaluminium (TiBA)) and aluminoxanes (e.g. triisobutyl aluminoxane (TiBAO) and methylaluminoxanes (MMAO)), or mixtures thereof.

11. Process according to any of the preceding claims wherein the product of decomposition is gaseous and is preferably an alkane corresponding to the alkyl used as scavengers, preferably methane and/or ethane and/or butane.

12. Process according to any of the preceding claims wherein the reactor is a gas phase reactor, preferably a fluidised bed gas phase reactor.

13. Process according to any of the preceding claims wherein the charge powder represents at least 50 tons, preferably at least 100 tons, more preferably at least 150 tons.

14. Process according to any of the preceding claims wherein the polymerisation catalyst is selected from Ziegler-Natta type catalysts, chromium oxide type catalysts, and metallocene type catalysts.

15. Process according to any of the preceding claims wherein a cocatalyst is used in combination with the catalyst, preferably an organometallic compound, for example an organoaluminium compound.

16. Process according to the previous claim wherein the scavenger is identical to or different from the cocatalyst, preferably identical.

17. Process according to any of the preceding claims wherein the principal olefin is ethylene and/or propylene.