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(71) **Applicant** (for all designated States except US): **SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.** [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL).

(71) **Applicant** (for US only): **SHELL OIL COMPANY** [US/US]; PO Box 2463, One Shell Plaza, Houston, TX 77252-2463 (US).

(72) **Inventors**: **SADASIVAN VIJAYAKUMARI**, Sivakumar; Grasweg 31, NL-1031 HW Amsterdam (NL). **CHEWTER, Leslie, Andrew**; Grasweg 31, NL-1031 HW Amsterdam (NL). **VAN WESTRENNEN, Jeroen**; Grasweg 31, NL-1031 HW Amsterdam (NL).

(74) **Agents**: **MATTHEZING, Robert, Maarten** et al.; PO Box 384, NL-2501 CJ The Hague (NL).

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(54) **Title**: PROCESS FOR THE OXIDATIVE REGENERATION OF A DEACTIVATED CATALYST AND AN APPARATUS THEREFOR

(57) **Abstract**: The present invention relates to a process for the oxidative regeneration of a deactivated catalyst, an apparatus therefore and a process for the preparation of an olefinic product incorporating such a regeneration process, said oxidative regeneration process comprising at least the steps of: - providing a catalyst comprising molecular sieve in hydrogen form to a guard zone (200); - passing a regeneration gas stream (185, 185a) comprising oxidant through the guard zone (200) to remove at least a part of one or both of any alkali metal ion and any alkaline earth metal ion from the regeneration gas stream (185, 185a) by ion exchange with the catalyst, to provide a treated regeneration gas stream comprising oxidant (205); - providing deactivated catalyst comprising molecular sieve in a regeneration zone (100), said deactivated catalyst from one or both of an oxygenate to olefin process and an olefin cracking process, wherein said regeneration zone (100) is separated from said guard zone (200) such that there is no transfer of catalyst from the guard zone (200) to the regeneration zone (100); - regenerating the deactivated catalyst in the regeneration zone (100) with the treated regeneration gas stream (205) to provide regenerated catalyst comprising regenerated molecular sieve; wherein said catalyst comprising molecular sieve in hydrogen form in said guard zone (200) is one or both of deactivated catalyst comprising molecular sieve in hydrogen form and regenerated catalyst comprising regenerated molecular sieve in hydrogen form.

