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(71) Applicant (for all designated States except US):

CELANESE INTERNATIONAL CORPORATION
[US/US]; 1601 West Lbj Freeway, Dallas, TX 75234 (US).

(72) Inventors: **SCATES, Mark, O.**; 18117 Sandy Cove,
Houston, TX 77058-4328 (US). **WAGNER, Joshua,**
Gregory; 3815 Ashwood Circle, La Porte, TX 77571
(US).

(74) Agents: **SPIERING, M., Susan** et al.; c/o Celanese Ltd.,
IP Legal Dept., 9502 Bayport Blvd., Pasadena, TX 77507
(US).

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(54) Title: IMPROVED METHOD AND APPARATUS FOR CARBONYLATION WITH REDUCED CATALYST LOSS

(57) Abstract: An apparatus and method for carbonylating a reactant, including sequestering Group VIII catalyst metal from a process stream which generally has a ppb concentration of the catalyst metal. The process stream is treated with a polymer having nitrogen-containing heterocyclic repeat units to sequester the catalyst from the stream, thus allowing valuable catalyst to be recovered and returned to the reaction mixture. An apparatus provides a resin bed downstream of the light ends column in a carbonylation process. Preferably, spent resin is regenerated with a regenerant composition compatible with the carbonylation reaction mixture so that catalyst metal can be directly recycled and the resin re-used.



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