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C L A I M S

1. Process for removing poly(propylene oxide) from propylene oxide, comprising:
 - a) sending a stream comprising propylene oxide and poly(propylene oxide) to a filtration screen having openings
5 with an average diameter of at most 50 μm ; and
 - b) sending the filtrate stream resulting from step a) to a membrane having an average pore size of from 0 to 30 nm and recovering a permeate stream from the membrane as a purified propylene oxide stream.
- 10 2. Process according to claim 1, wherein the average diameter of the openings of the filtration screen used in step a) is at most 25 μm , preferably at most 5 μm , and is at least 0.1 μm .
- 15 3. Process according to claim 1 or 2, wherein the filtration screen is used in step a) as a self-cleaning filtration (SCF) screen.
- 20 4. Process according to claim 3, wherein the self-cleaning filtration comprises a back-wash cycle.
5. Process according to claim 4, wherein the back-wash is initiated once the pressure of the fluid to be filtered on
25 the retentate side of the filtration screen reaches a threshold.
6. Process according to any one of claims 1 to 5, wherein step b) is repeated multiple times, preferably two times,
30 wherein two or more membranes having an average pore size of from 0 to 30 nm arranged in series are used wherein the

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permeate stream from the first membrane is sent to a second membrane, and wherein the permeate stream from the second membrane is recovered as a purified propylene oxide stream which may be sent to any third membrane.

- 5 7. Process according to any one of claims 1 to 6, additionally comprising:

c) sending the permeate stream resulting from step b) to an adsorption bed and recovering a purified propylene oxide stream from the adsorption bed.