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 self-cleaning filtration (SCF) screen having openings 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.

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.

3. Process according to claim 1, wherein the self-cleaning filtration comprises a back-wash cycle.

4. Process according to claim 3, wherein the back-wash is initiated once the pressure of the fluid to be filtered on the retentate side of the filtration screen reaches a threshold.

5. Process according to any one of claims 1 to 4, wherein step b) is repeated multiple times, preferably two times, wherein two or more membranes having an average pore size of from 0 to 30 nm arranged in series are used wherein the 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.

6. Process according to any one of claims 1 to 5, 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.