What is Claimed is:

1. A method for separating propylene oxide from a crude propylene oxide stream, the method comprising passing the crude propylene oxide stream through an extractive distillation column, said extractive distillation column including a water wash drum, wherein the distillation column is operated at a pressure in a range from 25 to 50 psig, and a temperature in a range of from 70 to 150 degrees Celsius.

2. The method of claim 1, wherein the extractive distillation column uses C8-C20 paraffin as extractive solvent.

3. The method of claim 1, wherein a portion of the overhead distillate is mixed with water and paraffin solvent in a static mixer to form a mixture, and wherein the mixture is fed to water wash drum.

4. The method of claim 3, wherein the water wash drum allows droplets of the mixture to coalesce and to separate in a top organic phase and a bottom aqueous phase, wherein the top organic phase is fed to the extractive distillation column overhead as part of a reflux, and wherein the bottom aqueous phase is removed for further treatment.

5. The method of claim 1, wherein the crude propylene oxide stream comprises from 0.001 to 0.5 wt% methanol, based on the total composition of the crude propylene oxide stream.

6. The method of claim 1, wherein the process produces a stream comprising less than 50 ppm formaldehyde.

7. The method of claim 1, wherein the process produces a stream comprising less than 30 ppm acetaldehyde.

What is Claimed is:

1. A method for separating propylene oxide from a crude propylene oxide stream, the method comprising passing the crude propylene oxide stream through an extractive distillation column, said extractive distillation column including a water wash drum, wherein the distillation column is operated at a pressure in a range from 25 to 50 psig, and a temperature in a range of from 70 to 150 degrees Celsius,

wherein the extractive distillation column uses C8-C20 paraffin as extractive solvent.

2. The method of claim 1, wherein a portion of the overhead distillate is mixed with water and paraffin solvent in a static mixer to form a mixture, and wherein the mixture is fed to water wash drum.

3. The method of claim 2, wherein the water wash drum allows droplets of the mixture to coalesce and to separate in a top organic phase and a bottom aqueous phase, wherein the top organic phase is fed to the extractive distillation column overhead as part of a reflux, and wherein the bottom aqueous phase is removed for further treatment.

4. The method of claim 1, wherein the crude propylene oxide stream comprises from 0.001 to 0.5 wt% methanol, based on the total composition of the crude propylene oxide stream.

5. The method of claim 1, wherein the process produces a stream comprising less than 50 ppm formaldehyde.

6. The method of claim 1, wherein the process produces a stream comprising less than 30 ppm acetaldehyde.

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