CLAIMS

1. A method of recovering phenol and acetone from a feed stream containing bisphenol-A and isomers thereof, the method comprising contacting the feed stream with water and a source of hydroxyl ions under conditions effective to decompose at least part of said bisphenol-A and isomers thereof to phenol and acetone, said conditions including a temperature of about 150 °C to about 300 °C, a pressure sufficient to keep the water substantially in the liquid phase at said temperature, and a molar ratio of hydroxyl ions to hydroxyphenyl groups in the residue stream from about 0.3:1 to about 0.9:1.

2. The method of claim 1, wherein said temperature is about 180 °C to about 260 °C.

3. The method of claim 1 ~~or claim 2~~, wherein the molar ratio of hydroxyl ions to hydroxyphenyl groups in said feed stream is from about 0.4:1 to about 0.7:1.

4. The method of ~~any preceding~~ claim 1, wherein said contacting is conducted for less than 4 hours~~, preferably from 2 to 3 hours~~.

5. The method of claim 1, wherein said contacting is conducted for about 2 to about 3 hours.

~~5.~~6. The method of ~~any preceding~~ claim 1, wherein the feed stream is a residue stream from the production of bisphenol-A, containing unreacted phenol, BPA and isomers thereof, trisphenols and other heavy aromatic compounds.

~~6.~~7. The method of claim 5, wherein the weight ratio of water to the sum of BPA and isomers thereof, trisphenols and other aromatic heavies in the feed stream is greater than or equal to 2:1~~, preferably from 2:1 to 10:1~~.

8. The method of claim 5, wherein the weight ratio of water to the sum of BPA

and isomers thereof, trisphenols and other aromatic heavies in the feed stream is from about 2:1 to 10:1.

~~7.~~9. A method of producing bisphenol-A, the method comprising:

(a) condensing acetone with a molar excess of phenol in the presence of a catalyst under conditions to produce a product stream comprising bisphenol-A and isomers thereof, unreacted phenol, trisphenols and other heavy aromatic compounds;

(b) recovering part of the bisphenol-A and unreacted phenol from said product stream to leave a residue stream comprising unreacted phenol bisphenol-A and isomers thereof, trisphenols, and other heavy aromatic compounds;

(c) contacting the feed stream with water and a source of hydroxyl ions under conditions effective to decompose at least part of said residue stream to phenol and acetone, said conditions including a temperature of about 150 °C to about 300 °C, a pressure sufficient to keep the water substantially in the liquid phase at said temperature, and a molar ratio of hydroxyl ions to hydroxyphenyl groups in the residue stream from about 0.3:1 to about 0.9:1; and

(d) recovering phenol and acetone from the effluent stream.

~~8.~~10. The method of claim ~~7~~ 9, wherein said temperature is about 180 °C to about 260 °C.

~~9.~~11. The method of claim ~~7 or claim 8~~ 9, wherein the molar ratio of hydroxyl ions to hydroxyphenyl groups in the residue stream is from about 0.4:1 to about 0.7:1.

~~10.~~12. The method of ~~any one of claims 7 to~~ claim 9, wherein weight ratio of water to the sum of BPA and isomers thereof, trisphenols and other aromatic heavies in the residue stream is greater than or equal to 2:1~~, preferably from 2:1 to 10:1~~.

13. The method of claim 9, wherein weight ratio of water to the sum of BPA and isomers thereof, trisphenols and other aromatic heavies in theresidue stream is from about 2:1 to about 10:1.

~~11.~~14. The method of ~~any one of claims 7 to~~ claim 9, wherein said contacting is conducted for less than 4 hours~~, preferably from 2 to 3 hours~~.

15. The method of claim 9, wherein said contacting is conducted for about 2 to about 3 hours.