

**PROCESS FOR RECOVERY OF BISPHENOL-A FROM THERMOPLASTIC POLYMER
CONTAINING DIHYDRIC PHENOL UNITS**

ABSTRACT OF THE INVENTION

A method of recovering dihydric phenol, particularly bisphenol-A, from compositions containing the reaction residue of bisphenol-A units which method comprises:

- a. granulating a bisphenol-A containing polymer;
- b. treating the particles with an alcohol, or any other organic swelling solvent miscible with water and easily distilled off from an aqueous solution, preferably a C₁-C₁₀ alcohol for a time sufficient to swell the particles;
- c. contacting the swelled particles with a ammoniacal solution at a temperature of at least about 25°C depending on the swelling solvent employed in order to selectively sever the ester bonds of the bisphenol-A residue units;
- d. separating the liquid phase from the solid phase;
- e. distilling ammonia and swelling solvent from the liquid phase of d. above, thus obtaining an essentially aqueous solution with dissolved urea and partially precipitated bisphenol-A;
- f. adding sufficient water to the residue of e. above to precipitate bisphenol-A thereby forming a liquid and solid phase;
- g. recovering the solid phase of bisphenol-A; and
- h. drying the bisphenol-A.

Since urea is soluble in water, urea goes into solution in step f. above. The urea is, therefore, recoverable, as well, which can be used as such or broken down into its component parts such as carbon dioxide and ammonia which ammonia can also be reused in this ammoniacal process.

Figure 1