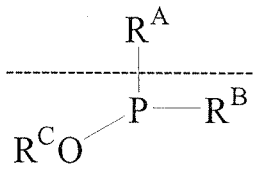
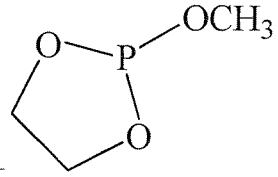
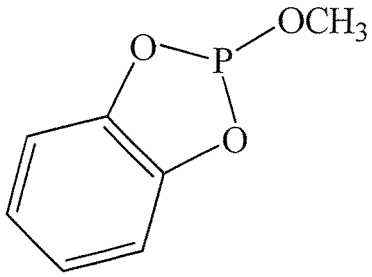
THAT WHICH IS CLAIMED:

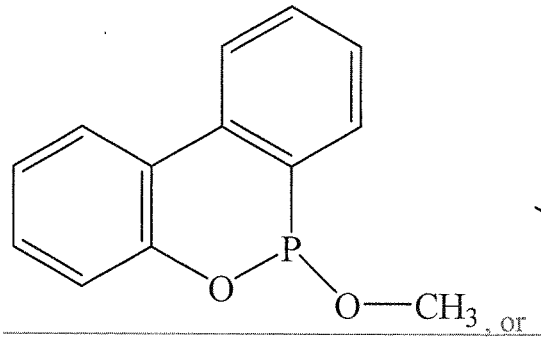
1. A process for making a phosphorus-containing compound comprising contacting:

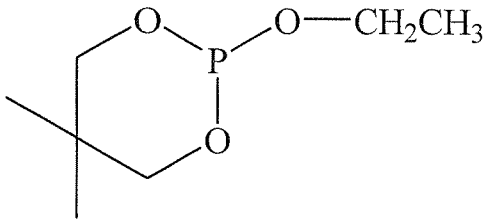
(A)









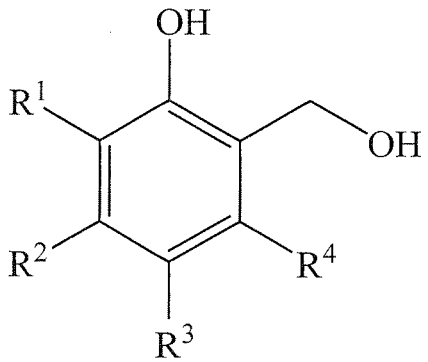


~~wherein R^A and R^B, independently of one another, are selected from the group consisting of substituted aryl groups, substituted aryloxy groups, unsubstituted aryl groups, unsubstituted aryloxy groups, substituted alkyl groups, substituted alkoxy groups, unsubstituted alkyl groups, and unsubstituted alkoxy groups;~~

~~or wherein R^A and R^B are be combined to form cyclic structures;~~

~~wherein R^C is a hydrocarbyl radical containing in the range of from 1 to 12 carbon atoms per molecule and is selected from the group consisting of methyl, ethyl, isopropyl, n-butyl, i-butyl, t-butyl, phenyl, and benzyl~~; and

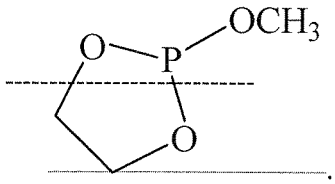
(B)



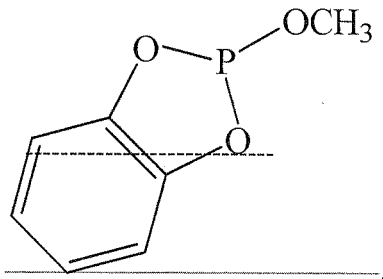
wherein R^1-R^4, independently from one another, are selected from the group consisting of hydrogen, a substituted alkyl group, a substituted alkoxy group, an unsustituted alkyl

group, an unsubstituted alkoxy group, a substituted aryl group, a substituted aryloxy group, an unsustituted aryl group and an unsubstituted aryloxy group.

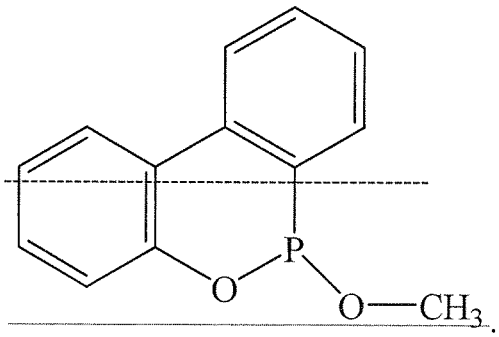
~~2. The process of Claim 1, wherein compound (A) is defined by the following formula:~~



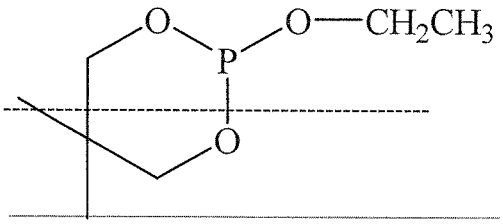
~~3. The process of Claim 1 wherein compound (A) is defined by the following formula:~~



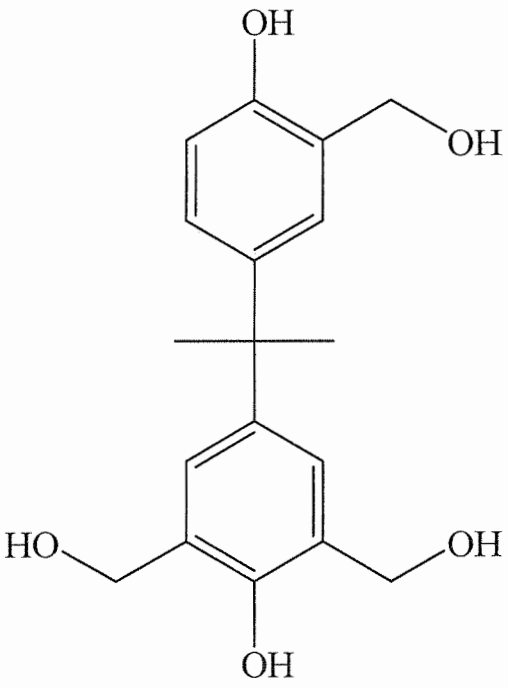
~~4. The process of Claim 1 wherein compound (A) is defined by the following formula:~~



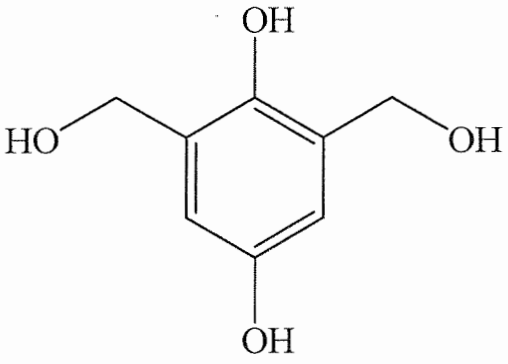
~~5. The process of Claim 1, wherein compound (A) is defined by the following formula:~~



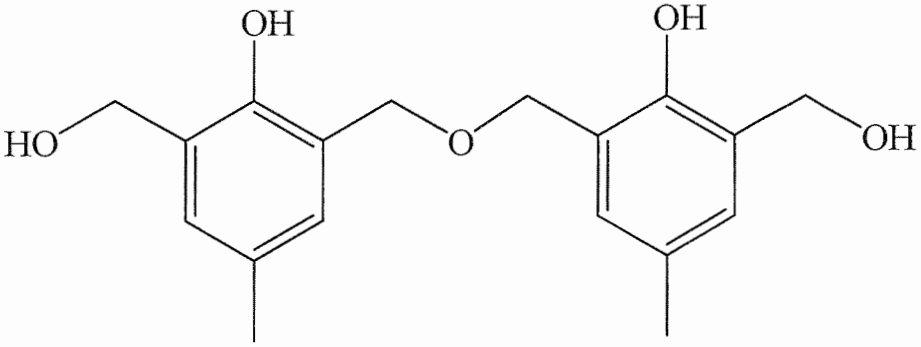
26. The process of Claim 1 wherein compound (B) is defined by the following formula:



37. The process of Claim 1 wherein compound (B) is defined by the following formula:



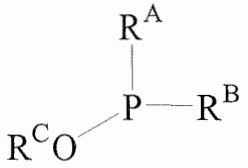
48. The process of Claim 1 wherein compound (B) is defined by the following formula:



~~95~~. A process for making a curable phosphorus-containing epoxy resin composition comprising blending:

(I) a phosphorus-containing compound comprising the reaction product of:

(A)

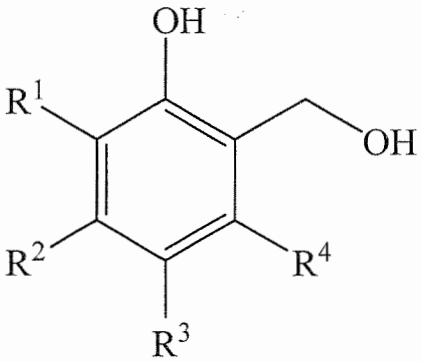


wherein R^A and R^B, independently of one another, are selected from the group consisting of substituted aryl groups, substituted aryloxy groups, unsubstituted aryl groups, unsubstituted aryloxy groups, substituted alkyl groups, substituted alkoxy groups, unsubstituted alkyl groups, and unsubstituted alkoxy groups;

or wherein R^A and R^B are be combined to form cyclic structures;

wherein R^C is a hydrocarbyl radical containing in the range of from 1 to 12 carbon atoms per molecule and is selected from the group consisting of methyl, ethyl, isopropyl, n-butyl, i-butyl, t-butyl, phenyl, and benzyl;and

(B)



wherein R^1-R^4, independently from one another, are selected from the group consisting of hydrogen, a substituted alkyl group, a substituted alkoxy group, an unsustituted alkyl group, an unsubstituted alkoxy group, a substituted aryl group, a substituted aryloxy group, an unsustituted aryl group and an unsubstituted aryloxy group;

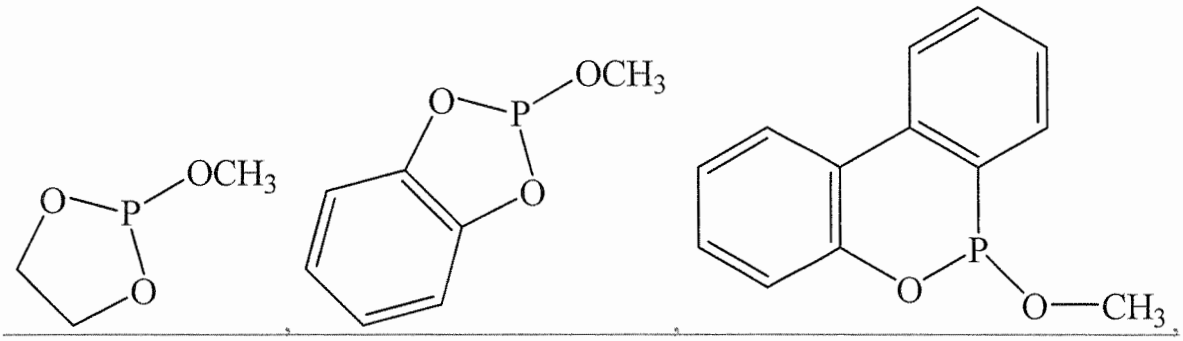
(II) at least one epoxy resin; and

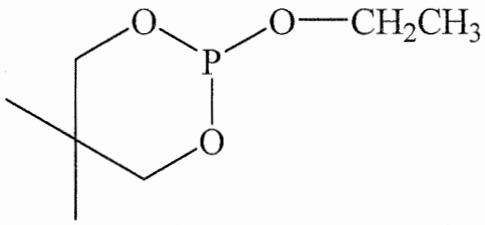
(III) at least one catalyst.

6. A process for making a curable phosphorus-containing epoxy resin composition comprising blending:

(I)

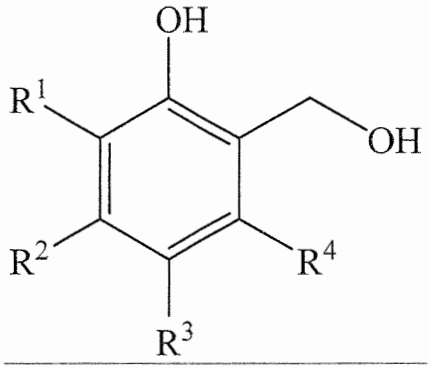
(A)





or ; and

(B)



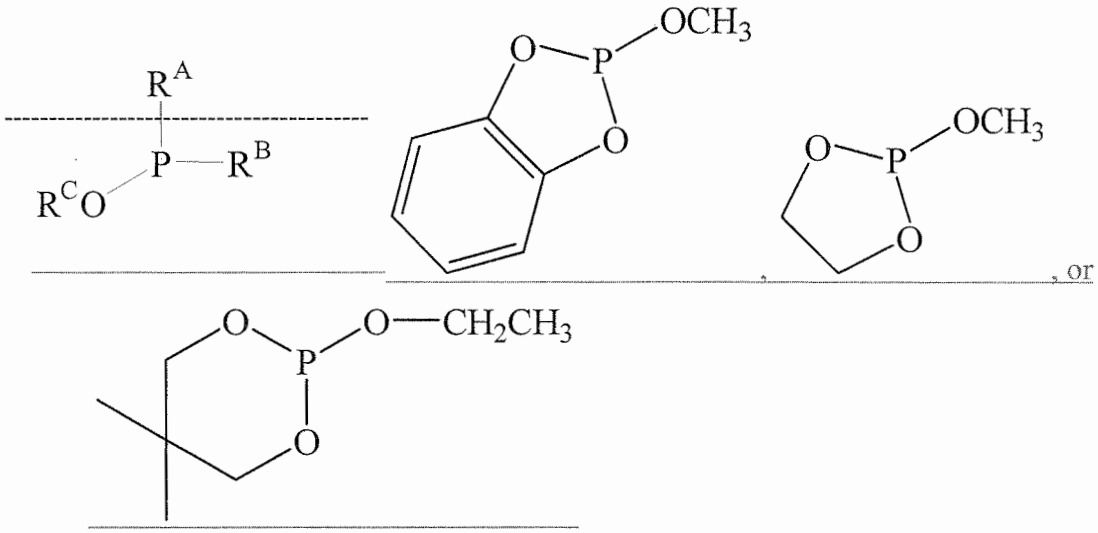
wherein R^1-R^4, independently from one another, are selected from the group consisting of hydrogen, a substituted alkyl group, a substituted alkoxy group, an unsustituted alkyl group, an unsubstituted alkoxy group, a substituted aryl group, a substituted aryloxy group, an unsustituted aryl group and an unsubstituted aryloxy group;

(II) at least one epoxy resin; and

(III) at least one catalyst.

~~7~~10. A phosphorus-containing compound prepared by a process comprising contacting:

(A)



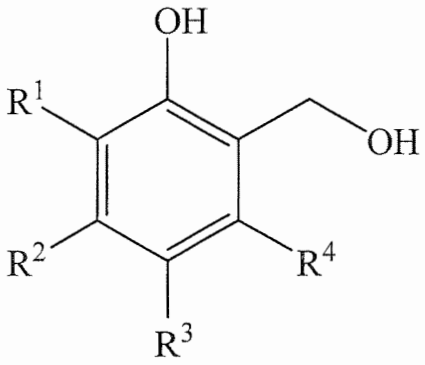
, or

~~wherein R^A and R^B, independently of one another, are selected from the group consisting of substituted aryl groups, substituted aryloxy groups, unsubstituted aryl groups, unsubstituted aryloxy groups, substituted alkyl groups, substituted alkoxy groups, unsubstituted alkyl groups, and unsubstituted alkoxy groups;~~

~~or wherein R^A and R^B are be combined to form cyclic structures;~~

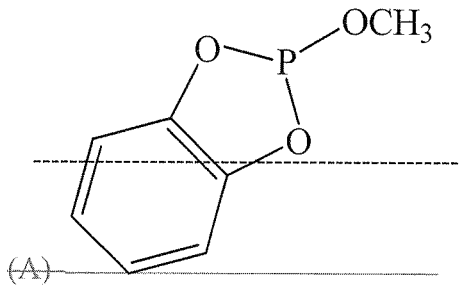
~~wherein R^C is a hydrocarbyl radical containing in the range of from 1 to 12 carbon atoms per molecule and is selected from the group consisting of methyl, ethyl, isopropyl, n-butyl, i-butyl, t-butyl, phenyl, and benzyl~~; and

(B)



wherein R^1-R^4, independently from one another, are selected from the group consisting of hydrogen, a substituted alkyl group, a substituted alkoxy group, an unsustituted alkyl group, an unsubstituted alkoxy group, a substituted aryl group, a substituted aryloxy group, an unsustituted aryl group and an unsubstituted aryloxy group.

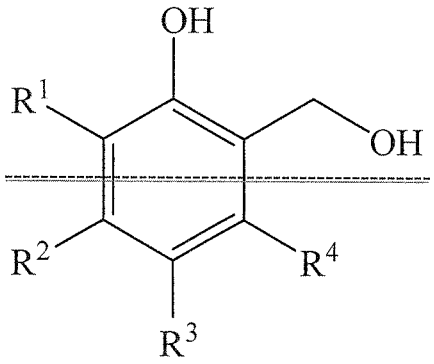
~~11. A phosphorus-containing compound prepared by a process comprising contacting:~~



~~(A)~~

~~; and~~

~~(B)~~



~~wherein R^1-R^4, independently from one another, are selected from the group consisting of hydrogen, a substituted alkyl group, a substituted alkoxy group, an unsustituted alkyl group, an unsubstituted alkoxy group, a substituted aryl group, a substituted aryloxy group, an unsustituted aryl group and an unsubstituted aryloxy group.~~

8~~12~~. A varnish produced from the composition of claim 5~~9~~.

9~~13~~. A prepreg prepared from the varnish of claim 8~~12~~.

10~~14~~. An electrical laminate prepared from the varnish of claim 8~~12~~.

11~~5~~. A printed circuit board prepared from the varnish of claim 8~~12~~.

12~~6~~. A coating prepared from the composition of claim 5~~9~~.

13~~7~~. A composite prepared from the composition of claim 5~~9~~.

14~~8~~. A casting prepared from the composition of claim 5~~9~~.

15~~9~~. An adhesive prepared from the composition of claim 5~~9~~.