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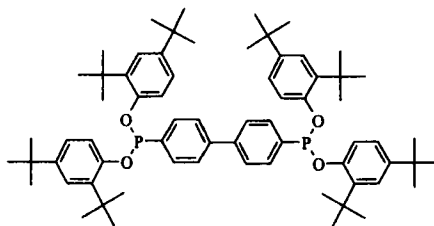
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Organophosphorus compounds are used in huge amounts in the polymer industry as additives. The most important applications are as processing stabilizers or flame retardants. Two substances belonging to the above mentioned additive types are presented and the advantages illustrated by application results. The mechanism of action will be discussed.

Processing stabilizer (Sandostab® P-EPQ):

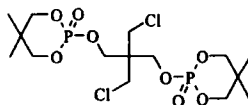
During the processing of polymers at elevated temperatures, oxidative degradation of the polymers occurs. Stabilizers containing trivalent phosphorus are added to quench the hydroperoxides formed. The main component of such a high performance stabilizer is the 4,4'-tetrakis(di-tert.-butylphenyl)-biphenyl-diphosphonite:



The influence of this substance as a processing stabilizer for polyolefins is shown by application results which are discussed.

Flame retardant (Sandotham®/Exolit® 5085):

A powerful flame retardant for injection molded PMMA is the 1,3,2-Dioxaphosphorinane, 2,2'-[2,2-bis(chloromethyl)-1,3-propanediyl]bis(oxy)]bis[5,5-dimethyl-2,2'-dioxide:



This additive shows beside the flame retarding also unique optical properties compared to other stabilizer systems. The high transparency of the PMMA remains and practical no color formation is observed in the final article in spite of a loading of 15% of the stabilizer.