



Mayzo Makes It Possible

BNX[®] 1425P

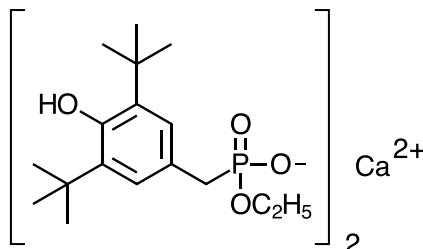
Antioxidant and Esterification Catalyst

Overview

BNX 1425P is a multifunctional additive that functions as an antioxidant for the stabilization of plastics, synthetic fibers, elastomers, and rosin ester tackifier resins. The product is also an effective esterification catalyst that is particularly useful in the production of rosin esters and in the solid-state polymerization of PET and other thermoplastic polyesters.

Chemistry

Chemical Name: Phosphonic acid, P-[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl] methyl]-, monoethyl ester, calcium salt (2:1)
CAS Number: 65140-91-2
Chemical Structure:



Typical Properties

Product Form: Solid
Melting Range: >260°C
Molecular Weight: 694.8 g/mol

Solubility (percent by weight, 20°C)

Acetone	0.02	n-Hexane	0.02
Chloroform	0.01	Methanol	8
Ethanol	<0.1	Toluene	~0.5
Ethylene glycol	8	Water	0.24

Applications

BNX 1425P is particularly useful as a stabilizer and esterification catalyst in rosin esters and in PET and other thermoplastic polyesters. It is also effective for the stabilization of polyolefins (particularly polypropylene fibers), cross-linked elastomers, and specialty adhesives.

Advantages

- In the production of rosin esters, BNX 1425P enables shorter reaction times and gives products characterized by reduced discoloration, a low acid number, and improved heat stability
- In PET, BNX 1425P provides faster solid-state polymerization, improved color, and reduced generation of acetaldehyde
- Non-discoloring
- Excellent resistance to migration and extraction
- Low-volatility during polycondensation and high temperature processing
- Extensive FDA clearances

Guidelines for Use

In rosin esters, recommended use levels generally range from 0.05 to 1% by weight. BNX 1425P can be used in combination with other additives in rosin esters, including antioxidants, disproportionation agents, and light stabilizers.

In PET, recommended use levels range from 0.01 to 0.2% by weight. The product may be added at different stages in PET production, for example in slurry preparation (as a solution in ethylene glycol), during the esterification step, or after finishing (by extrusion compounding). In processes utilizing phosphoric acid, sequential addition is necessary to avoid undesired interactions. BNX 1425P can be used in combination with other additives in polyesters, including antioxidants, UV absorbers, and benzoate light stabilizers.

In all applications, the exact formulation to be used is dependent on the substrate, performance requirements, and other factors, and should be determined by the user based on testing to simulate actual conditions of use. Please contact Mayzo for specific recommendations.

Storage

This product may be stored up to two years in a sealed container. Containers should be kept tightly closed when not in use and stored in a cool, dry place.

Safety

Please consult the Safety Data Sheet (SDS) prior to handling or using this product.

FDA Regulations

BNX 1425P is cleared under 21 CFR §178.2010 for use in polypropylene, polyethylene, adhesives and pressure-sensitive adhesives, rosins and rosin derivatives, can end and side seam cement formulations, petroleum alicyclic hydrocarbon resins, resins and polymers used as components of paper and paperboard, closures with sealing gaskets, finished rubber articles, reinforced wax, and polyethylene phthalate polymers. Please contact your Mayzo representative for complete details, including restrictions of use.

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