BNX® 1225

Antioxidant & Thermal Stabilizer Blend

Introduction: BNX® 1225 is a synergistic blend of 50% BNX® 1010 and 50% Benefos® 1680. This blend of both a primary and secondary antioxidant provides excellent heat stability and antioxidation, with good compatibility with resins and excellent extraction resistance.

Material Description: Antioxidant and Thermal Stabilizer Blend

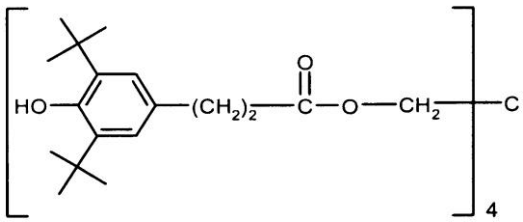
Chemical Name: 50% Tetrakis [Methylene-3 (3',5'-di-tert-butyl-4-hydroxyphenyl) propionate] methane (BNX® 1010): 50% Tris (2, 4- di-tert-butylphenyl) phosphite (Benefos® 1680)

Empirical Formula: $C_{73}H_{100}O_{12}$ (BNX® 1010)
$C_{42}H_{63}O_3P$ (Benefos® 1680)

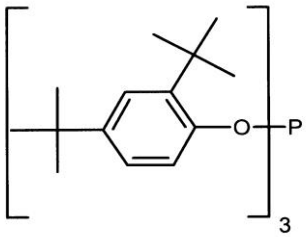
CAS#: 6683-19-8 (BNX® 1010)
31570-04-4 (Benefos® 1680)

Chemical Structure:

BNX® 1010



Benefos®



Physical Properties:

Molecular Weight:	BNX® 1010: 1177.7; Benefos® 1680: 647
% BENEFOS 1680:	45-55%
% BNX 1010:	45-55%
Volatile Matter:	< 0.5% Max
Solubility (10 g/100ml Toluene):	Clear
% Transmittance:	425nm – 97% Min
	500nm – 97% Min

Solubility:

Solubility at 20°C (g/100ml solvent):

Solvent	Solubility
Acetone	1%
Benzene	34%
Chloroform	36%
Ethyl Acetate	4%
Hexane	0.3%
Methanol	0.01%
Methylene Chloride	36%
Water	< 0.01%

Applications:

BNX® 1225 is a convenient blend of both a primary and secondary antioxidant. This synergistic blend addresses a broad range of stabilization needs. The relatively high phenolic antioxidant content provided by BNX® 1010 contributes synergistically to the polymer's stabilization and addresses applications requiring more long-term thermal stability by preventing thermo-oxidative degradation. The secondary antioxidant, Benefos® 1680, is an organophosphite of low volatility and particularly resistant to hydrolysis and provides protection to organic polymers which are prone to oxidation. This synergistic blend is used in polyolefins and olefin-copolymers such as polyethylene, polypropylene, polybutene and ethylene-vinyl acetate copolymers. This blend can also be used in other polymers such as engineering plastics, styrene homo- and copolymers, polyurethanes, elastomers, adhesives, and other organic substrates. BNX® 1225 can also be used in combination with light stabilizers to provide enhanced performance.

Advantages:

- Ease and convenience of compounding
- Maintenance of original melt flow
- Low color formation
- Improvement of long-term stability
- Low volatility
- Resistant to hydrolysis

Loading Instructions:

The loading data and results are based on laboratory work (and field testing) under controlled conditions and do not necessarily indicate the result that the buyer or user will attain. For this reason we strongly recommend testing of your own system under the actual conditions of processing and end-use prior to full scale testing. The recommended loading concentrations in polyolefins range between 0.1% and 0.25% depending on substrate and processing conditions. Exact loading must be determined by compositions of the specific polymer system.

Packaging:

BNX® 1225 is available in both powder and granular form in a 50 kg (110.2 pound) fiber drum, net weight, with an inner PE liner.

Storage:

This product may be stored up to two years in a sealed container. Containers should be stored in a cool, dry area. Extended storage at elevated temperatures or exposure to direct heat or sunlight could reduce product life. Keep containers sealed when not in use.

Toxicity & Safety:

This material is not intended for use in products for which prolonged contact with mucous membranes or abraded skin, or implantation within the human body is specially intended, unless the finished product has been tested in accordance with the Food and Drug Administration and/or other applicable safety testing requirements. Because of wide range of such potential uses, Mayzo, Inc. is not able to recommend this material as safe and effective for such uses and assumes no liability for any such uses. Read and understand the Material Safety Data Sheet before using or handling this product.

FDA:

The regulation status for BNX® 1225 is derived from the single components. Both BNX® 1010 and Benefos® 1680 are approved in food contact application; however, please consult the individual data sheets for more detailed information.