



## BNX® 1900

### Antioxidant & Thermal Stabilizer Blend

**Introduction:** BNX® 1900 is a synergistic blend of 20% BNX® 1076 and 80% 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.

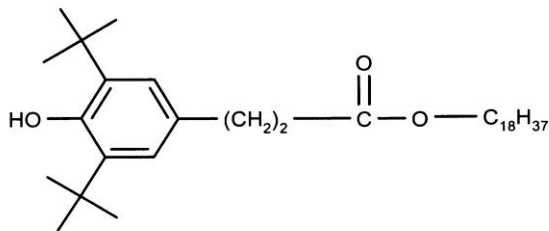
**Material Description:** Antioxidant and Thermal Stabilizer Blend

**Chemical Name:** 20% Stearyl-3-(3',5'-di-tert-butyl-4-hydroxyphenyl) propionate (BNX® 1076); 80% Tris (2, 4- di-tert-butylphenyl) phosphite (Benefos® 1680)

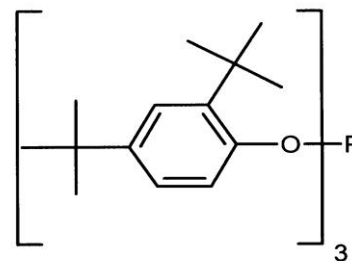
**Empirical Formula:** C<sub>35</sub>H<sub>62</sub>O<sub>3</sub> (BNX® 1076)  
C<sub>42</sub>H<sub>63</sub>O<sub>3</sub>P (Benefos® 1680)

**CAS#:** 2082-79-3 (BNX® 1076)  
31570-04-4 (Benefos® 1680)

### Chemical Structure:



BNX® 1076



Benefos 1680

### Physical Properties:

Molecular Weight:	BNX® 1076: 530.9; Benefos® 1680: 647
% BENEFOS 1680:	77.5 – 82.5 %
% BNX 1076:	17.5 – 22.5 %
Volatile Matter:	< 0.5% Max
Solubility (10 g/100ml Toluene):	Clear
% Transmittance:	425nm – 97% Min 500nm – 97% Min

### Solubility:

Solvent	Solubility
Acetone	1.8%
Benzene	34%
Chloroform	36%
Ethyl Acetate	4%
Hexane	11%
Methanol	0.01%
Water	< 0.01%

### Applications:

BNX® 1900 is a convenient blend of both a primary and secondary antioxidant. This synergistic blend addresses a broad range of stabilization needs. The phenolic antioxidant content provided by BNX® 1076 contributes synergistically to the polymer's stabilization and addresses applications requiring more long-term thermal stability by preventing thermo-oxidative degradation. The relatively high phosphite content of the secondary antioxidant, Benefos® 1680, addresses application with demanding processing conditions. In addition, Benefos® 1680 is particularly resistant to hydrolysis and provides protection to organic polymers that are prone to oxidation. This synergistic blend is primarily used in polyethylene and ethylene-copolymers such as ethylene-vinyl acetate copolymers. This blend can also be used in other polymers such as engineering plastics, polycarbonates, polyesters, styrene homo- and copolymers, polyurethanes, elastomers, adhesives, and other organic substrates. BNX® 1900 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® 1900 is available in powder 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® 1900 is derived from the single components. Both BNX® 1076 and Benefos® 1680 are approved in food contact application; however, please consult the individual data sheets for more detailed information.

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