

## BENOX B-50 & B-55

### Dibenzoyl Peroxide Paste

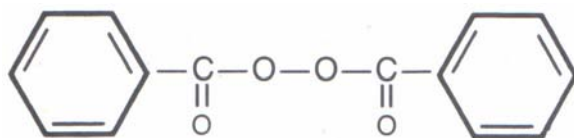
#### DESCRIPTION

Benox B-50 & B-55 are fine dispersions of dibenzoyl peroxide in a smooth, non-separating fire resistant creamy paste form. The patented (U.S. Patent No. 5,334,326) benzoate plasticizer diluent system provides product formulations that can be readily dissolved in resins and monomers. These products are less hazardous and easier to use than technical or dry forms of dibenzoyl peroxide provided the plasticizer and water content are not objectionable. Additional benefits of the benzoate plasticizer system include better resistance to the dispersion of heat degradation and the elimination of phthalate ester plasticizers.

#### TYPICAL PROPERTIES

	<u>Benox B-50</u>	<u>Benox B-55</u>
Dibenzoyl Peroxide Content .....	50 %	55 %
Active Oxygen .....	3.3 %	3.6 %
Form .....	←Thixotropic Cream →	
Color .....	← White →	
Soluble in .....	Oxygenated & aromatic solvents	
Slightly soluble in .....	Alcohols, petroleum solvents	
Insoluble in .....	Chlorinated solvents	

#### STRUCTURAL FORMULA



Molecular Weight : 242.2  
Empirical Formula – C<sub>14</sub>H<sub>10</sub>O<sub>4</sub>

#### APPLICATIONS

Benox B-50 & B-55 are principally used as polymerization initiators and curing agents for monomeric vinyl, acrylic, styrene and unsaturated polyester/vinyl ester resins, and copolymers of these resins, provided the plasticizer and water content can be tolerated. These paste products have advantages over dry, granular products, and include:

1. Marked reduction of hazards involved in handling and storage.
2. The homogeneous dispersion of extremely fine particles of dibenzoyl peroxide in plasticizer dissolves more readily in resins and eliminates the hazardous practice of dissolving dry dibenzoyl peroxide in styrene, acetone, or other volatile solvents.

### **ROOM TEMPERATURE MOLDING**

Both Benox<sup>®</sup> B-50 & B-55 can be used for room temperature curing of pre-promoted polyester and vinyl ester resins. Dimethyl or diethyl aniline are the most generally used, but another that can be used is N, N-dimethyl-p-toluidine. These promoters, or accelerators, are generally used in concentrations between 0.01% and 0.6%, on weight of resin. The B-50 & B-55 use levels can be between 0.5% and 5.0%, depending on the desired gel and cure properties.

**CAUTION:** ABSOLUTE CARE MUST BE TAKEN TO PREVENT DIRECT MIXING OF B-50 & B-55 WITH ANY OTHER PROMOTER. DOING SO COULD CAUSE A VIOLENT DECOMPOSITION RESULTING IN A FIRE OR EXPLOSION.

### **AUTO BODY FILLER**

Benox<sup>®</sup> B-50 is used to cure auto body patching compound formulated with unsaturated polyester resin. The creamy paste form of Benox<sup>®</sup> B-50 allows the user to easily and uniformly mix the peroxide with the patching compound for a rapid, uniform cure. Benox<sup>®</sup> B-50 is available in several colors which serve as a visual guide to ensure uniform dispersion in the patching compound. Repackaging of the peroxide in polyethylene tubes or jars is easily accomplished, but extreme care should be taken to avoid contamination. Use only clean and dust-free containers for repackaging.

### **ELEVATED-TEMPERATURE MOLDING**

Benox<sup>®</sup> B-55 is widely used in elevated in the elevated-temperature curing of polyester compounds in heated molds. The practical operating temperatures of Benox<sup>®</sup> B-55 initiated resin curing are between 180°F and 300°F. Processes which can use Benox<sup>®</sup> B-55 include matched-metal molding, hot press molding, bag molding, compression and transfer molding.

### **ADHESIVES**

Benox<sup>®</sup> B-50 & B-55 may be used in two-part adhesive systems based on polyester or methacrylate resins. The creamy consistency allows uniform mixing of the components. The non-separating aspect of B-50 & B-55 allows repackaging into smaller, more useable quantities.

## PRODUCT DESCRIPTIONS

**BENOX® B-50 #106** – Creamy, white, non-separating paste containing 50% dibenzoyl peroxide. Primarily formulated for use with auto body filler.

**BENOX® B-50 #210** – Blue pigmented version of 50% dibenzoyl peroxide in paste form. B-50 #210 is a creamy, non-separating product formulated for use with auto body filler.

**BENOX® B-50 #513** – Red pigmented 50% dibenzoyl peroxide paste. This product is the most popular in the B-50 line of creamy non-separating paste formulations

*(The Benox® B-50 #106, #210, and #512 formulations are exempt from U.S. D.O.T. regulations for hazardous materials when shipped within the United States.*

**BENOX® B-55 #107** – A basic white, paste form of 55% dibenzoyl peroxide formulated primarily for use in the mine bolt industry and other industries which require a product that can be further diluted prior to use.

**BENOX® B-55 #108** – This white, paste form of 55% dibenzoyl peroxide is formulated for use in ambient and elevated temperature curing of unsaturated polyester resins. B-55 #108 is characterized by its lower water content and creamy non-separating form, compared to the #107 formulation.

### SPECIAL NOTE

Syrgis Performance Initiators, Inc. offers a number of specialized Benox® paste product formulations, depending on the end use. Please specify the particular end use when ordering samples for laboratory or plant evaluation.

# Dibenzoyl Peroxide Paste Products

## STORAGE

- Storage at 70°F or below is recommended. Protect from freezing.
- Store in original containers **away** from flammables and all sources of heat, sparks, or flames; out of direct sunlight; and **away** from **cobalt naphthenate**, other promoters, accelerators, oxidizing or reducing agents and strong acids or bases.
- **Damaged containers** – Remove and isolate in a safe area. Re-package or dispose immediately (see **spills**).
- **Never** store in refrigerators containing food and/or beverages.
- Consult National Fire Protection Association (NFPA) Code 432 and/or local regulatory agencies.
- Rotate stock, use oldest date first.

## HANDLING

- Inform all personnel of procedures for safe handling and review MSDS with them.
- Remove from storage area only the amount needed for one shift.
- Wear safety glasses or goggles and chemical resistant gloves.
- Keep away from heat, flames, and sparks.
- **Never** add peroxides directly to promoters or vice-versa, vigorous to violent decomposition can occur.

## FIRST AID

- EYES – Flush immediately with large amounts of fresh water and continue washing for at least 15 minutes. **Medical attention is needed.**
- SKIN – Wash with soap and water.
- INGESTION – Administer large amounts of milk or water and call a physician immediately. Do not induce vomiting. As an aid to the physician, suggest calling your local Poison Control Center.

## SPILLS

- Clean up immediately by placing in a clean, approved container.
  - Dispose of immediately in accordance with local, state, and federal regulations.
- NOTE:** Spilled peroxides, if not immediately cleaned up, can dry out and decompose or burn in a hazardous, violent manner.

## FIRE

- When dry, Dibenzoyl Peroxide products ignite readily and burn vigorously.
- Use water from a safe distance – preferably with a water-fog nozzle.
- For very small fires, an extinguisher with carbon dioxide, foam, or dry chemical may be effective.
- In case of fire in or near a storage area, cool stored containers with water spray.

## PACKAGING, SHIPPING & AVAILABILITY

- The standard package sizes of Benox Paste Products are 50 lb. and 22 kg plastic pails and 175 kg polyethylene lined, fiberboard drum. For custom package sizes, please contact your local distributor or Syrgis Performance Initiators, Inc.
- Classification – Please refer to the specific Benox Material Safety Data Sheet under section 14, Shipping Description.
- Benox Paste Products are available through a nation-wide distributor network. Call Syrgis Performance Initiators, Inc. for the name of the distributor in your area.

**NOTE:** MSDS's for all our products may be requested thru the website [www.noracperoxides.com](http://www.noracperoxides.com)

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**SYRGIS PERFORMANCE INITIATORS, INC.**

334 Phillips 311 Road, Helena Arkansas 72342

Tel. (800) 786-6722 • Fax (800) 987-0845 • [www.syrgis.com](http://www.syrgis.com)