

# Polymer Initiator

## **Introduction and Applications**

Luperox® P polymer initiator is a versatile organic peroxide for use in polymerization of styrene to form polystyrene resins, or for curing of unsaturated polyesters. When used to make expandable polystyrene, Luperox® P polymer initiator is recommended as a 2<sup>nd</sup> step initiator at a concentration of 0.05 to 0.10%. For open and closed mold composites, users value the long shelf life of catalyzed resins and high purity. The typical curing temperature for unsaturated polyester resins using 0.5 to 1.0 percent by weight is 280° to 320°F.

## **Product Description**

Chemical Name	CAS-No.	Wt/Wt
tert-butyl peroxybenzoate	614-45-9	technically pure

# **Standard Specifications**

assay	≥ 98.0 %
active oxygen	≥ 8.07 %
t-butyl hydroperoxide	≤ 0.20 %
di-tert-butyl peroxide	≤ 0.20 %
hydrolyzable chloride	≤ 100 ppm
color, APHA	≤ 30

Typica	l Physical	<b>Properties</b>
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SADT	140°F (60°C)	
specific gravity	1.0428 (20°C)	
freezing point	47°F (8°C)	

### **Half-Life Data**

Half-life can be defined as the time required at a specific temperature, to affect a loss of one-half of the peroxide's active oxygen content. The efficiency of a free radical initiator depends upon its rate of decomposition.

Half-life data can be a useful guide in selecting the optimum initiator for a specific application. Several factors apply to half-life data obtained in dilute solution:

- (a) Use only applies to thermolytic decomposition
- (b) Half-life varies in different solvents due to induced decomposition if no radical scavenger is present

Time	Deg C	Deg F
100 hours	84.1	183.5
10 hours	103.6	218.5
1 hour	125.3	257.6
6 minutes	149.7	301.4
1 minute	170.8	339.5
1 second	228.0	442.4

#### **Temperature Tolerance**

Do not store above: 38°C (100°F) Do not store below: 10°C (50°F)

### Shelf-Life

Luperox® P has a shelf-life of 6 months from the date of Arkema delivery.

#### **Packaging**

Luperox® P is packaged in 5-gallon jerricans and cartons of 1-gallon bottles.

# **Availability**

Luperox® P is available worldwide from Arkema and authorized distributors. To discuss availability or speak to a salesperson, please call 844-LUPEROX.



#### **LUPEROX® ORGANIC PEROXIDES WORLDWIDE**



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