

# NOROX<sup>®</sup> 410

## t-Butylperoxy-2-Ethylhexanoate (t-Butyl Peroctoate)

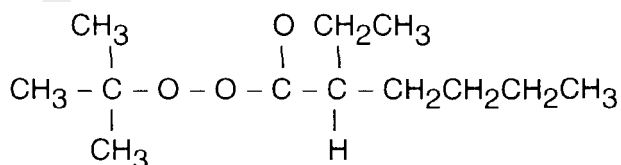
### DESCRIPTION

Norox<sup>®</sup> 410 is a colorless liquid, consisting of technically pure t-butylperoxy-2-ethylhexanoate (t-Butyl peroctoate). This branched, aliphatic perester is used as an initiator in the polymerization of monomers (ethylene, styrene and methacrylates) as well as for curing polyester resins at 70°C to 150°C, possibly in combination with cobalt accelerators.

### TYPICAL PROPERTIES

t-Butylperoxy-2-ethylhexanoate.....	98.0 %
Active Oxygen .....	7.18 %
Form .....	Colorless Liquid
Density @ 20°C .....	0.90 g/cm <sup>3</sup>
Viscosity @ 20°C .....	4 mPAS
Refractive Index @ 20°C .....	1.428

### CHEMICAL STRUCTURE



Molecular Weight 216.3  
Empirical Formula – C<sub>12</sub>H<sub>24</sub>O<sub>3</sub>  
CAS No. 3006-82-4

### THERMAL DECOMPOSITION DATA (Half-Life 0.1 mole/liter in Benzene)

Temperature	72°C / 162°F	90°C / 198°F	112°C / 234°F
Time	10 hrs.	1 hr.	0.1 hr.

### APPLICATION

Norox<sup>®</sup> 410 can be used as a curing agent for unsaturated polyester (UP) resins, possibly in combination with cobalt accelerators. Temperature Range: 70°C to 150°C. Usage level: 1% to 2% as supplied along with 0.5% to 1.0% cobalt accelerator.

Norox<sup>®</sup> 410 can be used as initiator for the high-pressure polymerization in combination with other peroxides of different thermal stability. Temperature Range: 120°C to 160°C. Norox<sup>®</sup> 410 offers advantages of being a liquid, readily miscible with high-boiling aliphatics, and highly efficient.

Norox<sup>®</sup> 410 can be used as an initiator for the bulk or suspension polymerization. Usage level: 0.1% to 0.5% as supplied. Particular advantages: free from plasticizer, liquid and highly active. A low residual monomer content can be achieved in combination with other, thermally more stable peroxides.

Norox<sup>®</sup> 410 can be used as an initiator for the polymerization of (meth-) acrylates and allylmonomers. Temperature Range: 80°C to 120°C. Usage level: 0.1% to 1.0% as supplied. In combination with thermally more stable peroxides, the residual monomer content in the polymer can be reduced.

# NOROX<sup>®</sup> 410

## STORAGE

- Storage at 50°F or below is recommended.
- 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.
- **Leaking 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

- Norox<sup>®</sup> 410 is a combustible oxidizing liquid, which must be handled with care.
- Inform all personnel of procedures for safe handling and review MSDS with them.
- Remove from storage area only the amount needed for immediate usage.
- Wear safety glasses or goggles and chemical resistant gloves.
- Keep away from heat, flames, and sparks.
- Avoid breathing vapors.
- **Never** add peroxides directly to promoters or vice-versa, 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

- Soak spilled material with water. The addition of water will reduce the concentration of the peroxide and will reduce its hazard potential.
  - Clean up immediately by absorbing with inert non-acidic material – vermiculite or sand.
  - After absorbing, moderately wet immediately with water and place in a clean plastic bag inside a plastic pail.
  - Dispose of immediately in accordance with local, state, and federal regulations.
- NOTE:** Spilled peroxides, if not immediately cleaned up, can become contaminated and ignite or decompose in a hazardous, violent manner.

## FIRE

- Peroxides ignite readily and burn vigorously with acceleration.
- 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 Norox<sup>®</sup> 410 are 35 lb. (5 gallon) polyethylene containers or 4 x 1 gallon (7 lb.) polyethylene containers per carton.
- Classification – Please refer to the specific Norox<sup>®</sup> 410 Material Safety Data Sheet under section 14, Shipping Description.
- Norox<sup>®</sup> 410 is 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.syrgisperformanceinitiators.com](http://www.syrgisperformanceinitiators.com)

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