1 PRODUCT AND COMPANY IDENTIFICATION

Functional Additives
2000 Market Street
28th Floor
Philadelphia, PA 19103-3222

EMERGENCY PHONE NUMBERS:
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service Number	(800) 331-7654	8:00 AM - 5:00 PM EST

Product Name	LUPEROX TBEC
Product Synonym(s)	
Chemical Family	Organic Peroxide - Peroxyester
Chemical Formula	
Chemical Name	OO-tert-butyl O-(2-ethylhexyl)monoperoxycarbonate
EPA Reg Num	
Product Use	Polymerization Initiator

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical %	OSHA
OO-t-Butyl-O-(2-ethylhexyl) monoperoxycarbonate	34443-12-4	>or= 95% By Wt.	Y
2-Ethylhexanol	104-76-7	<or= 3% By Wt.	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are either on the TSCA Inventory list or exempt as impurities.

3 HAZARDS IDENTIFICATION

Emergency Overview
Water white liquid

DANGER!
ORGANIC PEROXIDE
PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on its composition, it is anticipated to be practically non-toxic if swallowed, no more than slightly toxic if absorbed through skin, practically non-irritating to eyes, and slightly irritating to skin. Prolonged or repeated contact removes oils from the skin and may dry skin and cause irritation, redness and rash. High vapor concentrations may be irritating to the eyes and respiratory tract, and may result in central nervous system (CNS) effects such as headache, dizziness, nausea, drowsiness and, in severe exposures, loss of consciousness and death. If swallowed, this material may cause CNS effects as noted above.

4 FIRST AID MEASURES

IN CASE OF CONTACT, flush the area with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation develops and persists. Thoroughly clean shoes before reuse.

IF SWALLOWED, induce vomiting as directed by medical personnel. Get medical attention. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	NE		
Flash Point	101 C (214 F)	Flash Point Method	Seta CC
Flammable Limits- Upper	NE		
Lower	NE		

Extinguishing Media

Use water spray, foam or dry chemical.

Fire Fighting Instructions

Fight fire with large amounts of water from a safe distance. Use water spray to cool containers exposed to fire. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use. After a fire, wait until the material has cooled to room temperature before initiating clean up activities.

Fire and Explosion Hazards

Contact with incompatible materials or exposure to temperatures exceeding the SADT may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite.

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Use inert, non-combustible absorbant material such as sodium bicarbonate, sodium carbonate, calcium carbonate, clean sand or non-acidic clay directly on the spilled peroxide, then wet down (dampen) the mixture with water. Sweep or scoop up using non-sparking tools and place into a polyethylene bag for disposal. The sweepings should be wetted down further with water. Dispose of immediately. After all of the material has been collected, wash down the area with detergent and water. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7 HANDLING AND STORAGE

Handling

Contact with incompatible materials or exposure to temperatures exceeding SADT (See Section (9) may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite.

7 HANDLING AND STORAGE

Keep away from heat sparks and flame. Avoid contamination. Use only with adequate ventilation. Use explosion proof equipment. Keep container closed. Do not reuse container as it may retain hazardous product residue. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Storage

Detached storage is preferred. Store out of direct sunlight in a cool well-ventilated place. Store away from combustibles and incompatible materials. Refer also to National Fire Protection Agency (NFPA) Code 432, Code for the Storage of Organic Peroxide Formulations. To maintain stability and active oxygen content, store below 32 C (90 F).

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposures. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Eye / Face Protection

Use good industrial practice to avoid eye contact.

Skin Protection

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear face shield and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

Respiratory Protection

Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Airborne Exposure Guidelines for Ingredients

The components of this product have no established Airborne Exposure Guidelines

-Only those components with exposure limits are printed in this section.
-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Water white liquid
pH	NE
Specific Gravity	0.9267 @ 25C
Vapor Pressure	NE
Vapor Density	NE
Melting Point	NA
Freezing Point	<-60C (-76F)
Boiling Point	NE
Solubility In Water	Insoluble
Molecular Weight	246.4
SADT	65C/150F (35 lb ctn.)

This material is chemically unstable and should only be handled under specified conditions. See HANDLING AND STORAGE section of this MSDS for specified conditions.

SADT - Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generated a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.

Other Physical Data

Active Oxygen Content = 6.17-6.37%

10 STABILITY AND REACTIVITY

Stability

This material is chemically unstable and should only be handled under specified conditions. See HANDLING AND STORAGE section of this MSDS for specified conditions.

Hazardous Polymerization

Does not occur.

Incompatibility

Contact with foreign materials, such as, strong acids, alkalis, oxidizers, reducing agents, and amines may result in a violent decomposition reaction or in product degradation.

Hazardous Decomposition Products

Temperatures at or above the SADT can result in the release of hazardous decomposition products which are flammable and autoignite.

11 TOXICOLOGICAL INFORMATION

Toxicological Information

Data on this material and/or its components are summarized below.

OO-t-Butyl-O-(2-ethylhexyl) monoperoxycarbonate
Single exposure (acute) studies indicate that this material is practically non-toxic to rats if swallowed (LD50 >5,000 mg/kg), no more than slightly toxic to rabbits if absorbed through skin (LD50 >2,000 mg/kg), practically non-irritating to rabbit eyes (0.34/110.0), and slightly irritating to rabbit skin (24-hr exposure, 2.92/8.0).

No skin allergy was observed in guinea pigs following repeated exposure. Repeated oral exposure produced

11 TOXICOLOGICAL INFORMATION

hyaline droplet nephropathy in male rats. This effect is specific to male rats and not relevant to humans. No genetic changes were observed in tests using animal cells or animals, but were observed in bacteria.

2-Ethylhexanol
Single exposure (acute) studies indicate that this material is no more than slightly toxic if swallowed (rat LD50 2,000-6,400 mg/kg) or absorbed through skin (rabbit LD50 1,970 - >5,000 mg/kg), severely irritating to rabbit eyes and moderately irritating to rabbit skin. No deaths occurred in rats exposed to 227 or 235 ppm for 6-hr.

No skin allergy was noted in humans following repeated exposure. Repeated oral administration to rats and mice produced liver effects (increased weight and peroxisome induction), decreased kidney and stomach weights and some forestomach lesions. Repeated application to the skin caused lymphopenia (decrease in white blood cells), decreased spleen weight and minor skin irritation in rats, but no adverse effects were noted in rabbits. Increased central nervous system (CNS) excitability was noted in rabbits following repeated inhalation exposure. No tumors were noted in rats and male mice following long-term oral exposure, while female mice had an increased incidence of tumors. In a tumor promotion test in rats, no liver tumors were induced. In dermal and inhalation developmental studies, no adverse effects were observed in rats. In oral studies, some developmental effects were observed, but only at levels which were toxic to the mothers. Generally, no genetic changes were observed in tests using bacteria, animal cells or animals. One positive result has been reported in a test using bacteria.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information

Data on this material and/or its components are summarized below.

OO-t-Butyl-O-(2-ethylhexyl) monoperoxycarbonate
This material is practically non-toxic to Daphnia magna (48-hr EC50 >100 mg/l).

2-Ethylhexanol
This material is slightly toxic to rainbow trout (96-hr LC50 32-37 mg/l), fathead minnow (96-hr LC50 28.2 mg/l), golden ides (48-hr LC50 10-100 mg/l) and brine shrimp (24-hr TLm 19 mg/l).

Chemical Fate Information

Data on this material and/or its components are summarized below.

OO-t-Butyl-O-(2-ethylhexyl) monoperoxycarbonate
This material is not readily biodegradable (48% after 28-days). Following a respiration inhibition test in activated sludge, the 3-hr EC50 was >1,000 mg/l.

2-Ethylhexanol
The Theoretical Oxygen Demand (ThOD) = 2.95 g/g, 5-day Biochemical Oxygen Demand (BOD) = 1.36 g/g and Chemical Oxygen Demand (COD) = 2.79 g/g.

13 DISPOSAL CONSIDERATIONS

Waste Disposal

Incineration is the recommended method for disposal observing all local, state and federal regulations.

14 TRANSPORT INFORMATION

DOT Name	Organic Peroxide, Type D, Liquid
DOT Technical Name	[tert-Butyl peroxy-2-ethylhexylcarbonate, <=100%]
DOT Hazard Class	5.2
UN Number	UN 3105
DOT Packing Group	PG II
RQ	

15 REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	N
Delayed (Chronic) Health	N	Reactive	Y
		Sudden Release of Pressure	N

The components of this product are either on the TSCA Inventory list or exempt as impurities.

Ingredient Related Regulatory Information:

SARA Reportable Quantities	CERCLA RQ	SARA TPQ
2-Ethylhexanol	NE	
OO-t-Butyl-O-(2-ethylhexyl) monoperoxycarbonate	NE	

Massachusetts Right to Know
This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.
2-Ethylhexanol

Pennsylvania Right to Know
This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.
2-Ethylhexanol

16 OTHER INFORMATION

Revision Information

Revision Date	02 JAN 2007	Revision Number 11
Supercedes Revision Dated	23-AUG-2005	

Revision Summary
This material has been transferred to the Functional Additives group.

Key
NE= Not Established NA= Not Applicable (R) = Registered Trademark

Miscellaneous
Luperox is a registered trade mark of Arkema Inc.

NFPA 432 Organic Peroxide Classification: Class III

NFPA 704 Rating:
Health - 1 Flammability - 3 Reactivity - 2

HMIS Rating:
Health - 1 Flammability - 2 Reactivity - 2

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