1 PRODUCT AND COMPANY IDENTIFICATION

Organic Peroxides
2000 Market Street
Philadelphia, Pa 19103

EMERGENCY PHONE NUMBERS:
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center (303) 623-5716 (24Hrs)

Information Telephone Numbers
Customer Service 1-800-558-5575

Product Name LUPEROX P
Product Synonym(s) Formerly T-BUTYL PERBENZOATE
Chemical Family Organic Peroxide - Peroxyester
Chemical Formula
Chemical Name t-Butyl Peroxybenzoate
EPA Reg Num
Product Use Polymerization Initiator

2 COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS RegistryNumber</th>
<th>Typical Wt. %</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butyl peroxybenzoate</td>
<td>614-45-9</td>
<td>98</td>
<td>Y</td>
</tr>
<tr>
<td>Impurities including:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Di-tert-butyl peroxide</td>
<td>110-05-4</td>
<td>&lt; 0.2</td>
<td>N</td>
</tr>
<tr>
<td>tert-Butyl hydroperoxide</td>
<td>75-91-2</td>
<td>&lt; 0.2</td>
<td>N</td>
</tr>
</tbody>
</table>

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
Yellow liquid; Unpleasant, pungent odor

DANGER!
ORGANIC PEROXIDE
MAY CAUSE SKIN IRRITATION.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be slightly toxic if swallowed or absorbed through skin, practically non-toxic if inhaled, slightly irritating to eyes and moderately irritating to skin.
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-Ignition Temperature</td>
<td>NE</td>
</tr>
<tr>
<td>Flash Point</td>
<td>89 C / 192 F</td>
</tr>
<tr>
<td>Flammable Limits Upper</td>
<td>NE</td>
</tr>
<tr>
<td>Flammable Limits Lower</td>
<td>NE</td>
</tr>
</tbody>
</table>

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. Sweep or scoop up using non-sparking tools. Wet down and dispose of immediately. 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
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. 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
Store below 38 C/100 F to maintain stability and active oxygen content. 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. Exercise EXTREME caution if product is stored in a heated area.

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. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

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
Avoid breathing vapor or mist. Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for 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
**9 PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/Odor</td>
<td>Yellow liquid; Unpleasant, pungent odor</td>
</tr>
<tr>
<td>pH</td>
<td>NE</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.042 @ 25/25 C</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>7.6 mm Hg @ 30 C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>6.7</td>
</tr>
<tr>
<td>Melting Point</td>
<td>8.5 C (subcools)</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>NE</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>NA</td>
</tr>
<tr>
<td>Solubility In Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>NE</td>
</tr>
<tr>
<td>Percent Volatile</td>
<td>100</td>
</tr>
<tr>
<td>SADT</td>
<td>60 C/140 F (HAST)</td>
</tr>
</tbody>
</table>

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 = 8.07% min.
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.

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.

Hazardous Polymerization
Does not occur.

Incompatibility
Contact with foreign materials, such as, strong acids, alkalis, oxidizers, reducing agents, amines, and promoters/accelerators 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 may autoignite.

11 TOXICOLOGICAL INFORMATION

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

t-Butyl Peroxybenzoate
Single exposure (acute) studies indicate that this material is slightly toxic if swallowed (rat LD50 3,639-4,838 mg/kg) or absorbed through skin (rabbit LD50 3,817 mg/kg), practically non-toxic if inhaled (rat 4-hr LC50 >200 mg/l), slightly irritating to rabbit eyes (7.0/110) and moderately irritating to rabbit skin (3.7/8.0).

No skin allergy was observed in guinea pigs following repeated exposure. Repeated oral exposure produced no systemic toxicity in rats and mice. No genetic changes were observed in tests using bacteria or animals; however, changes were observed in animals.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information
This material is moderately non-toxic to guppies (96-hr LC50 8.6 mg/l; semi-static; a fine layer of test substance was visible on the surface of the water at all tests concentrations).

Chemical Fate Information
This material is readily biodegradable in a closed bottle test. An EC50 of 43 mg/l was reported in an activated sludge respiration inhibition test.
13 DISPOSAL CONSIDERATIONS

Waste Disposal
Dispose of in accordance with federal, state and local regulations. Dilution followed by incineration is the preferred method. Dilution ratio of 10:1 in a clean, compatible, combustible solvent (i.e., Fuel Oil #2, mineral oil) will reduce reactivity hazard during incineration and transportation.

14 TRANSPORT INFORMATION

DOT Name: Organic Peroxide Type C, Liquid
DOT Technical Name: [tert-Butyl peroxybenzoate, >77-100%]
DOT Hazard Class: 5.2
UN Number: UN3103
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 Y
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:

<table>
<thead>
<tr>
<th>SARA Reportable Quantities</th>
<th>CERCLA RQ</th>
<th>SARA TPQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di-tert-butyl peroxide</td>
<td>100 LBS</td>
<td></td>
</tr>
<tr>
<td>tert-Butyl hydroperoxide</td>
<td>100 LBS</td>
<td></td>
</tr>
<tr>
<td>tert-Butyl peroxybenzoate</td>
<td>100 LBS</td>
<td></td>
</tr>
</tbody>
</table>

Massachusetts Right to Know
This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.
Di-tert-butyl peroxide
tert-Butyl hydroperoxide
tert-Butyl peroxybenzoate

New Jersey Right to Know
This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.
Di-tert-butyl peroxide
tert-Butyl hydroperoxide
tert-Butyl peroxybenzoate

Pennsylvania Right to Know
This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.
Di-tert-butyl peroxide
tert-Butyl hydroperoxide
Pennsylvania Right to Know
This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.
   tert-Butyl peroxynbenzoate

16 OTHER INFORMATION

Revision Information
Revision Date 07 MAR 2002 Revision Number 5
Supercedes Revision Dated 27-SEP-2001

Revision Summary
Section 9: SADT updated

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

Miscellaneous
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