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
Product Name: LUPEROX LP
Product Synonym(s): Formerly ALPEROX-F
Chemical Family: Organic Peroxide - Diacyl Peroxide
Chemical Formula: DiLauroyl Peroxide

2 COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS Registry Number</th>
<th>Typical Wt. %</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilauroyl peroxide</td>
<td>105-74-8</td>
<td>98</td>
<td>Y</td>
</tr>
<tr>
<td>Fatty Acid</td>
<td>Proprietary</td>
<td>&lt; 2</td>
<td>N</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&lt; 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 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
White flakes, musty odor

DANGER!
ORGANIC PEROXIDE
THERMALLY UNSTABLE - REFRIGERATION REQUIRED

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. On the basis of available information, exposure to this material is not expected to produce significant adverse human health effects; however, use of appropriate good industrial hygiene and safety precautions to control exposure is recommended when handling or using this material.
4 FIRST AID MEASURES

IN CASE OF CONTACT, flush the area with plenty of water. Remove material from clothing. Wash clothing 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>NA</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
Do NOT use a solid stream of water. A solid stream of water can cause a dust explosion. 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.

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
Mix with damp, inert non-combustible absorbant material. Sweep or scoop up using non-sparking tools. 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 explosion proof equipment. Do not reuse container as it may retain hazardous product residue. Minimize exposure to ambient temperatures. Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin and clothing.

Storage
REFRIGERATION REQUIRED. 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. Minimize exposure to ambient temperatures. To maintain stability and active oxygen content, store below 80 °F (27 °C).

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

Eye / Face Protection
Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment available.

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 dust. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components (full facepiece recommended). 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 exposure limit may be significantly exceeded, 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>White flakes, musty odor</td>
</tr>
<tr>
<td>pH</td>
<td>NA</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>27.6 lb/ft³ bulk density</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>NA</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>13.7</td>
</tr>
<tr>
<td>Melting Point</td>
<td>54 C</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>NA</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>0-2</td>
</tr>
<tr>
<td>SADT</td>
<td>51 °C/124 °F (65 lb ctn.)</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 generate 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 = 3.95%
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, amines, reducing agents 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.

Dilauroyl peroxide
Single exposure (acute) studies indicate that this material is practically non-toxic to rats if swallowed (LD50 >5,000 mg/kg), practically non-irritating to rabbit eyes, and non-irritating to rabbit skin (4-hr exposure, 0.0/8.0).

This material was tested for carcinogenic potential in several studies by subcutaneous injection in mice and rats and by repeated skin application in mice. A positive response was observed in one study only. In this study, repeated skin application along with a known carcinogen enhanced skin tumor production in mice by the carcinogen. This material has produced no genetic changes in standard tests using bacterial cells.

12 ECOLOGICAL INFORMATION

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

Dilauroyl peroxide
96-hr LC50 Guppy: 1,000 mg/l, Practically Non-toxic
12 ECOLOGICAL INFORMATION

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

Dilauroyl peroxide
This material was evaluated for biodegradability in a closed bottle system and was reported to be readily biodegradable.

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, Solid
DOT Technical Name: [Dilauroyl peroxide, <=100%]
DOT Hazard Class: 5.2
UN Number: 3106
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: N
Delayed (Chronic) Health: N

Fire: Y
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>Fatty Acid</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Dilauroyl peroxide</td>
<td>NE</td>
<td></td>
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</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.
Dilauroyl peroxide

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.
Dilauroyl peroxide

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

16 OTHER INFORMATION

Revision Information
Revision Date 16 JUN 2000 Revision Number 2
Supercedes Revision Dated 04-AUG-1999

Revision Summary
The manufacturer has changed its name from Elf Atochem North America, Inc. to ATOFINA Chemicals, Inc.

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

Miscellaneous
Back up or emergency refrigeration should be available in case primary refrigeration is lost. Emergency dry ice source(s) should be known in case of refrigeration failure. Temperature in storage areas should be monitored. Refrigeration systems should have high temperature alarms to warn of loss of refrigeration.

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