1 PRODUCT AND COMPANY IDENTIFICATION

Functional Additives
2000 Market Street
21st 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
Customer Service Number
(800) 331-7654
8:00 AM - 5:00 PM EST

Product Name LUPEROX 575
Product Synonym(s)
Chemical Family Organic Peroxide - Peroxyester
Chemical Formula
Chemical Name t-Amyl peroxy(2-ethylhexanoate); also t-Amyl peroctoate
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 %</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethylhexanoyl chloride</td>
<td>760-67-8</td>
<td>&lt; 0.2</td>
<td>N</td>
</tr>
<tr>
<td>Di-t-amyl peroxyde</td>
<td>10508-09-5</td>
<td>&lt; 0.4</td>
<td>N</td>
</tr>
<tr>
<td>2-Ethylhexoic acid</td>
<td>149-57-5</td>
<td>&lt; 0.5</td>
<td>N</td>
</tr>
<tr>
<td>t-Amyl hydroperoxide</td>
<td>3425-61-4</td>
<td>&lt; 0.5</td>
<td>N</td>
</tr>
<tr>
<td>2-Methyl-2-butanol</td>
<td>75-85-4</td>
<td>&lt; 0.5</td>
<td>N</td>
</tr>
<tr>
<td>Impurities including:</td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Petroleum distillate</td>
<td>64742-48-9</td>
<td>&lt; 2</td>
<td>Y</td>
</tr>
<tr>
<td>t-Amyl peroxy-2-ethylhexanoate</td>
<td>686-31-7</td>
<td>&gt; 95</td>
<td>Y</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
Clear liquid; faint, sweet odor

DANGER!
ORGANIC PEROXIDE
THERMALLY UNSTABLE - REFRIGERATION REQUIRED
MAY CAUSE ALLERGIC SKIN REACTION.

Potential Health Effects
4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water.

IF ON SKIN, immediately wash with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

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>71 C / 160 F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>N.E.</td>
</tr>
<tr>
<td>Lower Flammable Limits</td>
<td>N.E.</td>
</tr>
<tr>
<td>Seta CC</td>
<td>N.E.</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 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...
6 ACCIDENTAL RELEASE MEASURES

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. 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. Minimize exposure to ambient temperatures. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.

Storage

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. 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

<table>
<thead>
<tr>
<th>Exposure Limit</th>
<th>Value</th>
</tr>
</thead>
</table>

Product Code: 970000
Revision: 9
Issued: 02 JAN 2007
Page 3 of 7
2-Ethylhexoic acid

- As inhalable vapor and aerosol  5 mg/m³

- 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/Odor</td>
<td>Clear liquid; faint, sweet odor</td>
</tr>
<tr>
<td>pH</td>
<td>NE</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.9028 @ 25 C</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>6.6 mm Hg @ 60°F</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>7.9</td>
</tr>
<tr>
<td>Melting Point</td>
<td>&lt;-80 C</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>NE</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>NE</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>45 °C/113 F (35 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 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 = 6.60% 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, amines, reducing agents & 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 autoignite.

11 TOXICOLOGICAL INFORMATION

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

t-Amyl peroxy-2-ethylhexanoate
Single exposure (acute) studies indicate that this material is practically non-toxic if swallowed (rat LD50 >5,000 mg/kg) or inhaled (4-hr LC50 42.2 mg/l; t-butyl peroctoate), no more than slightly toxic if absorbed through skin (rabbit LD50 >2,000 mg/kg), non-irritating to rabbit eyes (0.0/110) and slightly irritating to rabbit skin (1.0/8.0).

No skin allergy was observed in guinea pigs or humans following repeated exposure, although skin irritation was noted. Human volunteers exposed to 100 ppm for 6 hours noted no symptoms associated with exposure. Repeated inhalation studies in rats produced kidney tubule damage in male rats only indicative of hydrocarbon nephropathy, but extensive studies have demonstrated that these effects occur only in male rats and are not relevant to humans. Repeated inhalation exposure in dogs produced no adverse effects. Repeated skin application of these types of materials has produced skin tumors in mice. No birth defects were observed in the offspring of rats following inhalation exposure during pregnancy. No genetic changes were observed in tests using bacteria, animal cells or animals.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information
No data are available.
12 ECOLOGICAL INFORMATION

Chemical Fate Information
No data are available.

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 D, Liquid, Temperature Controlled
DOT Technical Name [tert-Amyl Peroxy-2-Ethylhexanoate, \( \leq 100\% \)]
DOT Hazard Class 5.2
UN Number UN 3115
DOT Packing Group PG II
RQ
DOT Special Information DOT Control Temperature = 20 C
DOT Emergency Temperature = 25 C

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>Petroleum distillate</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>2-Ethylhexoic acid</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>t-Amyl hydroperoxide</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>2-Methyl-2-butanol</td>
<td></td>
<td>100 LBS</td>
</tr>
<tr>
<td>2-Ethylhexanoyl chloride</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Di-t-amyl peroxide</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>t-Amyl peroxy-2-ethylhexanoate</td>
<td></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.

2-Methyl-2-butanol

New Jersey Right to Know
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.
- 2-Methyl-2-butanol
- Di-t-amyl peroxide
- t-Amyl hydroperoxide

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

16 OTHER INFORMATION

Revision Information
Revision Date 02 JAN 2007  Revision Number 9
Supercedes Revision Dated 02-JAN-2007

Revision Summary
This product has been moved to the Functional Additives business unit.

Key
NE = Not Established  NA = Not Applicable  (R) = RegisteredTrademark

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.

Arkema Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use are beyond the control of Arkema Inc., Arkema Inc. expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.