



G E O
SPECIALTY CHEMICALS

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Link-Cup® DBPH
SYNONYMS: 2,5-Dimethyl-2,5-di-(t-butylperoxy)hexane

SUPPLIER: GEO Specialty Chemicals, Inc.
340 Mathers Road
Ambler, PA 19002-3420
1-267-960-7900

NFPA Rating: NFPA 432 - Organic Peroxide Classification: Class III
HMIS Classification: Health: 2 Flammability: 2 Reactivity: 2

EMERGENCY TELEPHONE: CHEMTREC: (800) 424-9300
Outside USA - (703) 527-3887 collect calls accepted

EMERGENCY OVERVIEW:

Slightly Yellow Liquid. Mild Odor. Organic Peroxide. Combustible Liquid. Reactive: Exposure to temperatures above 104° F (40° C) may cause violent decomposition. May cause eye, skin and respiratory tract irritation. May be harmful if swallowed.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient / CAS No.	Weight %	OSHA - PEL's	ACGIH 2002 - TLV's
2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane 78-63-7	~ 99	None Established.	None Established.
Di-tert-butyl peroxide 110-05-4	~ 1	None Established.	None Established.

3. HAZARDS IDENTIFICATION

Hazard Information: WARNING! Organic peroxide. May cause eye, skin and respiratory tract irritation. Combustible Liquid.

Eye Contact: Causes mild eye irritation.

Inhalation: Vapors may be irritating to respiratory tract.

Skin Contact: May cause mild skin irritation including redness, swelling, drying, scaling, thickening, depigmentation and hair loss.

Ingestion: May cause irritation of the mouth, throat and stomach.

Aggravated Conditions: None known.

ACUTE OVEREXPOSURE: Skin, eye and respiratory irritation. Ingestion of large amounts of product may cause temporary uncontrolled urinary functions.

4. FIRST AID MEASURES

Inhalation:	If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
Skin Contact:	Immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.
Eye Contact:	Immediately flush with plenty of water for at least 15 minutes, holding eyelids apart to ensure flushing of the entire surface. Washing within one minute is essential to achieve maximum effectiveness. Seek medical attention.
Ingestion:	Do not induce vomiting. If vomiting should occur spontaneously, keep the airway clear. Get medical attention. Never give anything by mouth to an unconscious person.
Notes To Physician:	Large volumes of ingested material should be removed by gastric lavage with a large bore tube, being careful not to cause aspiration of the compound during removal of the tube.

5. FIRE FIGHTING MEASURES

Flash Point (°F/°C)	146° F (63° C)
Flash Point Method:	Setaflash
Autoignition Temp. (°F):	Not Determined
Flammable Limits in Air - Lower (%):	Not Determined
Flammable Limits in Air - Upper (%):	Not Determined
Extinguishing Media:	Water fog, carbon dioxide, foam, dry chemical.
Fire Fighting Procedures:	Cool exposed containers with water spray after extinguishing fire.
Special Exposure Hazards:	Use water spray to cool fire exposed surfaces. Fight fire from a safe distance and from a protected location. Decomposition in fire may produce toxic gases.
Special Protective Equipment:	Fire fighters should wear full protective clothing, including self-contained breathing equipment.

6. ACCIDENTAL RELEASE MEASURES

Procedure for Cleaning/Absorption:	Evacuate area of all unnecessary personnel. Remove all sources of ignition. Ventilate area of leak or spill. Soak up with absorbent, inert material and place in labeled waste container for disposal. Do not flush to sewer or surface waters! Do not mix with other products or wastes. Wear adequate personal protective clothing and equipment. Observe storage temperature of <104° F (40° C).
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7. HANDLING AND STORAGE

PRECAUTIONARY STATEMENTS:	WARNING! ORGANIC PEROXIDE. COMBUSTIBLE LIQUID. CAUSES IRRITATION.
Handling:	FOR INDUSTRIAL USE ONLY. Avoid release to the environment. Avoid contact with eyes, skin and clothing. Avoid contact with vapors from heated material. Avoid contamination of food, beverage, or smoking materials. Keep containers tightly closed when not in use. Use only in a well ventilated area. Wear chemical splash goggles, gloves and protective clothing when handling. Wash thoroughly with soap and water after handling. Do not take internally.

Storage: Store below 104° F (40° C).
Storage above 50° F (10° C) is recommended to avoid freezing.
Store in a cool, dry place away from ignition sources and open flame.
Avoid storing product near incompatible materials. See MSDS Section 10.

DO NOT APPLY STEAM HEAT OR OTHER HIGH TEMPERATURE SOURCES TO THAW!

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Respiratory Protection: When exposures exceed the PEL or TLV, use NIOSH/MSHA approved respirator in accordance with OSHA Respiratory Protection Requirements under 29 CFR 1910.134.

Gloves: Butyl rubber.

Skin Protection: Normal work coveralls.

Eye Protection: Chemical goggles or a face shield if splashing hazard exists.

Other Personal Protection Data: Eyewash fountains and safety showers must be easily accessible. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: LIQUID

Color: SLIGHTLY YELLOW

Odor: MILD

pH: Not Applicable

Specific Gravity (Water=1): 0.877 @ 25 C

Density @ 20° C: Unknown

Boiling Point (°F/°C): 55-57°C/131-135°F at 7mm Hg

Melting Point Range (°F/°C): Not Determined

Freezing Point/Range (°F/°C): ~ 50°F/10°C

Vapor Pressure: Not Determined

Vapor Density (Air=1): 10.0

% Volatile by Volume: 100

Evaporation Rate: < 1 (ethyl ether=1)

Solubility in Water Description: Negligible

VOCs (lbs/gallon): Not Determined

Viscosity, Dynamic (Centipoise) @ 20° C: Not Determined

Molecular Weight: Not Applicable

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling, use and transportation.

Conditions to Avoid: Keep away from heat, sparks and flame. Avoid any source of ignition. Avoid direct sunlight. Avoid temperatures above 104° F (40° C).

Materials to Avoid: Metals. Accelerators. Combustible materials. Acids. Oxidizing agents. Reducing agents. Corrosives.

Hazardous Decomposition Products: Carbon Monoxide and Carbon Dioxide. Hydrocarbons.

Hazardous Polymerization: Not anticipated under normal or recommended handling and storage conditions.

Additional Guidelines: None.

11. TOXICOLOGICAL INFORMATION

PRINCIPAL ROUTES OF EXPOSURE: Skin, eyes and respiratory tract.
Ingestion: May cause irritation of the mouth, throat and stomach.
Skin Contact: May cause mild skin irritation including redness, swelling, drying, scaling, thickening, depigmentation and hair loss.
Inhalation: Vapors may be irritating to respiratory tract.
Eye Contact: Causes mild eye irritation.

Carcinogenicity Status

(Chemical Name, Wt. %, CAS No.)

2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane 90 78-63-7

IARC Group 1, Group 2A or Group 2B Carcinogen:	Not Listed
National Toxicology Program Known or Suspect Carcinogen:	Not Listed
ACGIH Confirmed or Suspected Carcinogen:	Not Listed
OSHA Select or Possible Select Carcinogen:	Not Listed

Di-tert-butyl peroxide 1 110-05-4

IARC Group 1, Group 2A or Group 2B Carcinogen:	Not Listed
National Toxicology Program Known or Suspect Carcinogen:	Not Listed
ACGIH Confirmed or Suspected Carcinogen:	Not Listed
OSHA Select or Possible Select Carcinogen:	Not Listed

Acute Oral LD50 (mg/kg):	>32,000 mg/kg (rats) - 2,5-Dimethyl - 2,5 di(t-butylperoxy)-hexane >25 gm/kg (rats) - Di-tert-butyl peroxide 4572 mg/kg (mice) - Di-tert-butyl peroxide
Acute Dermal LD50 (mg/kg):	4,100 mg/kg (rabbits)
Acute Inhalation LC50 (mg/l):	>4100 ppm/4H (rats) - Di-tert-butyl peroxide >4103 ppm/4H (mice) - Di-tert-butyl peroxide
Mutagenicity/Genotoxicity:	No mutagenicity or genotoxicity studies have been carried out with this product.
Other Information:	Skin irritation index: 2.25 / 8.0, 4hr. exposure (rabbit skin = slightly irritating) Eye irritation index: 0.8 / 110 (rabbit eyes = practically non-irritating)

12. ECOLOGICAL INFORMATION

Mobility:	Not Determined
Persistence:	Not Determined
Bioaccumulative:	Not Determined
Ecotoxicological Information:	
Acute Fish Toxicity:	LC50 (guppy): 1,000 mg/L, 96 hrs. (di-tert-butylperoxide)
Acute Crustaceans Toxicity:	Not Determined
Acute Algae Toxicity:	Not Determined
Chemical Fate Information:	Not Determined
Other Information:	No ecological studies have been carried out on this product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Dispose of product in an approved chemical waste landfill or incinerate in accordance with applicable Federal, State and local regulations. Since the emptied container retains product residue, all labeled hazard precautions must be observed. Do not mix with other products or wastes. Do NOT put solutions containing this product into sewer systems. Do NOT reuse empty containers.

RCRA

Is the unused product a RCRA hazardous waste if discarded? (Yes/No)
If yes, the EPA Hazardous Waste Code is:

Yes
D003 (reactivity)

14. TRANSPORTATION INFORMATION

DOT:

DOT Status: REGULATED MATERIAL.
DOT Shipping Name: ORGANIC PEROXIDE TYPE D, LIQUID, (2,5-DIMETHYL-2,5-DI[TERT-BUTYLPEROXY]HEXANE, 90%)
UN/NA Number: UN 3105
Hazard Class: 5.2
DOT Packing Group: II
ERG#: 145
Harmonized Tariff Number: 3815.19.0000

ICAO/IATA:

Status: REGULATED MATERIAL.
Proper Shipping Name: ORGANIC PEROXIDE TYPE D, LIQUID, (2,5-DIMETHYL-2,5-DI[TERT-BUTYLPEROXY]HEXANE, 90%)
UN/NA Number: UN 3105
IATA-DGR Class: 5.2
Packing Group: NONE
ERG Code: 145
Special Provisions: A20 - During the course of transport, this substance must be protected from direct sunshine and stored in a cool and well ventilated place, away from all sources of heat. A statement to this effect must be included on the Shipper's Declaration.
Air Label: Keep Away From Heat

IMDG:

Status: REGULATED MATERIAL.
Proper Shipping Name: ORGANIC PEROXIDE TYPE D, LIQUID, (2,5-DIMETHYL-2,5-DI[TERT-BUTYLPEROXY]HEXANE, 90%)
UN/NA Number: UN 3105
Hazard Class: 5.2
Packing Group: NONE
EMS No.: F-J; S-R
Flash Point (°F/°C): 146° F (63° C)

15. REGULATORY INFORMATION

International Inventories:

USA TSCA Inventory Status: All of the components of this product are listed on the US EPA TSCA Inventory, or exempt from listing.
Canadian DSL: All of the components of this product are listed on the Canadian Domestic Substances List.
European - EINECS: All of the components of this product are listed on EINECS, or exempt from notification.
Japanese Chemical Inventory: All of the components of this product are listed on the JPENCS Inventory.
Philippines Chemical Inventory: All of the components of this product are found on the Philippines Inventory.
Australian Chemical Inventory: All of the components of this product are listed on the Australian Chemical Inventory.
Korean Chemical Inventory: All of the components of this product are found on the Korean Existing Chemical Substances List.

State and Federal Regulations:
(Chemical Name, Wt. %, CAS No.)

2,5-Dimethyl-2,5-di-(tert-butylperoxy)hexane 90 78-63-7
New Jersey Right-to-Know List: Listed

Di-tert-butyl peroxide 1 110-05-4
New Jersey Right-to-Know List: Listed
Pennsylvania Right to Know List: Listed
Massachusetts Right to Know Law: Listed
Rhode Island Hazardous Substance List: Listed
New Jersey Trade Secret Registry: N/A
Number(s):

SARA Section 311/ 312 Hazard Class: This product is classified as a SARA ACUTE HEALTH HAZARD.
This product is classified as a SARA FIRE HAZARD.
This product is classified as a SARA REACTIVE HAZARD.

Other Information: This product does not contain any ingredients subject to the reporting requirements of SARA Title III, Section 313 (40 CFR Part 372).

16. OTHER INFORMATION

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Telephone Number: (267) 960-7943

Reference Number: 114570 PD

Revision Date: 07/17/2007

Additional Information: None.

Important Note: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

END OF MSDS