



G E O
SPECIALTY CHEMICALS

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Link-Cup® TMCH40C
SYNONYMS: 1,1-bis(tert-butylperoxy)-3,3,5-trimethylcyclohexane, approximately 40% powder with chalk/silica

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

NFPA Rating: NFPA 432 - Organic Peroxide Classification: Class V
HMIS Classification: Health: 1 Flammability: 1 Reactivity: 1

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

EMERGENCY OVERVIEW:

White powder. Mild Odor. Reactive: Exposure to temperatures above 140° F (60° C) may cause violent decomposition. May cause eye, skin and respiratory irritation. Harmful if swallowed or inhaled: Very toxic to aquatic organisms.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient / CAS No.	Weight %	OSHA - PEL's	ACGIH 2002 - TLV's
1,1-Di (t-Butylperoxy) 3,3,5-trimethyl cyclohexane 6731-36-8	~40	None Established.	None Established.
Silica 7631-86-9	40-45	None Established.	None Established.
Isododecane 31807-55-3	10-15	None Established.	None Established.
Calcium Carbonate 471-34-1	<5	None Established.	None Established.

3. HAZARDS IDENTIFICATION

Hazard Information: Organic peroxide. May cause eye, skin and respiratory tract irritation.
Eye Contact: Causes mild eye irritation .
Inhalation: Causes moderate respiratory irritation.
Skin Contact: Causes moderate skin irritation.
Ingestion: Harmful if swallowed.
Aggravated Conditions: None known.

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:	Wash thoroughly with soap and water, remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention if irritation should develop.
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:	Not an ingestion hazard under anticipated conditions of use. For accidental ingestion if conscious, drink one to two glasses of water (8-16 oz.). 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)	Not Determined
Flash Point Method:	NA
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. May produce hazardous fumes or hazardous decomposition products. Fight fire from a safe distance and from a protected location.
Special Protective Equipment:	Fire fighters should wear full protective clothing, including self-contained breathing equipment.

6. ACCIDENTAL RELEASE MEASURES

Procedure for Cleaning/Absorption:	Remove all sources of ignition. Ventilate area of leak or spill. Clean up immediately by sweeping or shoveling material into a properly labeled container for disposal. Avoid release to the environment. Keep wet with water. Do not flush to sewer or surface waters! Do not mix with other products or wastes. Wear adequate personal protective clothing and equipment.
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7. HANDLING AND STORAGE

PRECAUTIONARY STATEMENTS:	WARNING! ORGANIC PEROXIDE.
Handling:	For industrial use only. Causes irritation. Harmful if absorbed through the skin, swallowed, or inhaled. Avoid contact with eyes, skin and clothing. Avoid contact with vapors from heated material. Avoid contamination of food, beverage, or smoking materials. Avoid release to the environment. 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 in a cool, dry place away from ignition sources and open flame. Store below 86° F (30° C) in original closed containers. Avoid storing product near incompatible materials. See MSDS Section 10.

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:	Appropriate chemical resistant gloves should be worn.
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. Avoid contamination of food, beverage or smoking materials.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	FREE-FLOWING POWDER
Color:	WHITE
Odor:	MILD
pH:	Not Applicable
Specific Gravity (Water=1):	Not Determined
Density @ 20° C:	~400 kg/M3 - bulk density
Boiling Point (°F/°C):	Not Determined
Melting Point Range (°F/°C):	Not Determined
Freezing Point/Range (°F/°C):	Not Determined
Vapor Pressure:	Not Determined
Vapor Density (Air=1):	Not Determined
Evaporation Rate (BuAc=1):	Not Determined
Solubility in Water Description:	INSOLUBLE
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:	At or above 140° F (60° C) self-accelerating decomposition possible. Keep away from heat, sparks and flame. Avoid any source of ignition.
Materials to Avoid:	Heavy metal salts. Strong acids and bases. Reducing agents. Accelerators. Contaminants (e.g., rust, dust, ash). Combustible materials.
Hazardous Decomposition Products:	In case of fire and decomposition, flammable/explosive, irritant, corrosive, harmful/toxic gases and vapors are formed.
Hazardous Polymerization:	Not anticipated under normal or recommended handling and storage conditions.
Additional Guidelines:	For this product, the SADT (UN-Test H.4) is 140° F (60° C).

11. TOXICOLOGICAL INFORMATION

PRINCIPAL ROUTES OF EXPOSURE:	Skin, eyes and respiratory tract.
Ingestion:	Harmful if swallowed.
Skin Contact:	Causes mild skin irritation.
Inhalation:	May cause mild respiratory irritation.
Eye Contact:	Causes mild eye irritation .

Carcinogenicity Status

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

1,1-Di (t-Butylperoxy) 3,3,5-trimethyl cyclohexane ~40 6731-36-8

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

Silica 40-45 7631-86-9

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

Isododecane 10-15 31807-55-3

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

Calcium Carbonate <5 471-34-1

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):

LDo: >2000 mg/kg (rats) - peroxide 75% in di-butyl phthalate
LD50: >2000 mg/kg (rats) - isododecane

Acute Dermal LD50 (mg/kg):

LDo (rabbit): >2000 mg/kg - peroxide 75% in di-butyl phthalate

Acute Inhalation LC50 (mg/l):

~800 mg/l/4hr (rats) - peroxide 75% in di-butyl phthalate
>21.3 mg/l/1hr (rats) - isododecane

Mutagenicity/Genotoxicity:

No mutagenicity or genotoxicity studies have been carried out with this product.

Other Information:

Not a sensitizer - peroxide, isododecane
Mildly irritating to eyes and skin (rabbits) - peroxide
Not irritating to eyes and skin (rabbits) - isododecane

12. ECOLOGICAL INFORMATION

Mobility:

Not Determined

Persistence:

Not Determined

Bioaccumulative:

Not Determined

Ecotoxicological Information:

Acute Fish Toxicity:

Not Determined

Acute Crustaceans Toxicity:

EC50 (48hr): 0.133 mg/l (Daphnia Magna) - peroxide

Acute Algae Toxicity:

Not Determined

Chemical Fate Information:

Not Determined

Other Information:

Peroxide is classified as very toxic for aquatic organisms and may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Dispose of product in an approved industrial waste landfill or incinerate in accordance with applicable Federal, state and local regulations.

RCRA

Is the unused product a RCRA hazardous waste if discarded? (Yes/No)

Yes

If yes, the EPA Hazardous Waste Code is:

D003 (reactivity)

14. TRANSPORTATION INFORMATION

DOT:

DOT Status: REGULATED MATERIAL.
DOT Shipping Name: ORGANIC PEROXIDE TYPE F, SOLID (1,1-DI-[t-BUTYL PEROXY]-3,3,5-TRIMETHYLCYCLOHEXANE, 40%)
UN/NA Number: UN 3110
Hazard Class: 5.2
DOT Packing Group: II
ERG#: 145
Marine Pollutant: 1,1-DI-(t-BUTYL PEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE
Harmonized Tariff Number: 3815.19.0000

ICAO/IATA:

Status: REGULATED MATERIAL.
Proper Shipping Name: ORGANIC PEROXIDE TYPE F, SOLID (1,1-DI-[t-BUTYL PEROXY]-3,3,5-TRIMETHYLCYCLOHEXANE, 40%)
UN/NA Number: UN 3110
IATA-DGR Class: 5.2
Packing Group: None
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.
Special Handling Label: Keep away from heat.

IMDG:

Status: REGULATED MATERIAL.
Proper Shipping Name: ORGANIC PEROXIDE TYPE F, SOLID (1,1-DI-[t-BUTYL PEROXY]-3,3,5-TRIMETHYLCYCLOHEXANE, 40%)
UN/NA Number: UN 3110
Hazard Class: 5.2
Packing Group: None
EMS No.: F-J, S-R
Marine Pollutant: 1,1-DI-(t-BUTYL PEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE
Flash Point (°F/°C): Not Determined

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: Some of the components of this product are not listed on the Canadian Domestic Substances List.
Canadian NDSL: Some of the components of this product are not found on the Canadian Non-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 not 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.)

1,1-Di (t-Butylperoxy) 3,3,5-trimethyl cyclohexane ~40 6731-36-8
New Jersey Right-to-Know List: Listed

Silica 40-45 7631-86-9
New Jersey Right-to-Know List: Listed
Pennsylvania Right to Know List: Listed
Massachusetts Right to Know Law: Listed
Minnesota Hazardous Substance List: Listed

Isododecane 10-15 31807-55-3
New Jersey Right-to-Know List: Listed
New Jersey Trade Secret Registry Number(s): N/A

SARA Section 311/ 312 Hazard Class: This product is classified as a SARA ACUTE HEALTH HAZARD.
This product is classified as a SARA REACTIVE HAZARD.
This product is classified as a SARA FIRE HAZARD.
This product does not contain any ingredients subject to the reporting requirements of SARA Title III, Section 313 (40 CFR Part 372).

Other Information:

16. OTHER INFORMATION

Prepared / Edited By: Peter R. Dluzneski - Manager of Technology
Telephone Number: (267) 960-7926
Reference Number: 114500 PD
Revision Date: 12/22/2005
Additional Information: None.
Important Note: The information herein is given in good faith but no warranty, expressed or implied, is made.

*****END OF MSDS*****