

**B.P.O. POWDER  
MATERIAL SAFETY DATA SHEET**

Oct. 26, 2016

**SECTION 1 - PRODUCT IDENTIFICATION AND USE**

Product Identifier: B.P.O. POWDER CATALYST

**B-COMPONENT**

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Benzoyl Peroxide is the B-Component (hardening agent) of the Lafrentz System 400 series of products or Lafrentz SRM (Skid Resistant Material) product and is added to the A-Component at a 1% by weight ratio.  
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Product Identification Number (PIN): UN 3106

Manufactured By: Syrgis Performance Initiators  
334 Phillips 311 Road  
Helena, Arkansas  
72342  
Phone: 870-572-2935

Supplied By: Lafrentz Road Marking  
A Division of Canadian Road Builders Inc.  
1-26228 Twp Road 530A  
Acheson, AB T7X 5A7  
Telephone: (780) 962-7800

24 Hour Emergency Telephone Number: (613) 996-6666

## BENOX<sup>®</sup> C-50

### SECTION 1 - IDENTIFICATION OF THE PRODUCT AND THE COMPANY

<b>PRODUCT NAME</b>	<b>BENOX<sup>®</sup> C-50</b>	<b>TELEPHONE</b>	870-572-2935
<b>MANUFACTURER</b>	United Initiators SPI, Inc.	<b>CHEMTREC (24hr) (USA)</b>	800-424-9300
<b>ADDRESS</b>	334 Phillips 311 Rd., Helena, AR 72342	<b>(Maritime/International)</b>	703-527-3887
<b>CHEMICAL NAME</b>	Benzoyl Peroxide/Dicyclohexyl Phthalate	<b>CAS NO.</b>	94-36-0
<b>CHEMICAL FAMILY</b>	Organic Peroxide (Diacyl Peroxide)/ Phthalate Ester	<b>CHEMICAL FORMULA</b>	(C <sub>6</sub> H <sub>5</sub> CO) <sub>2</sub> O <sub>2</sub>

### SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

<b>COMPONENTS</b>	<b>CAS NO.</b>	<b>%</b>
Benzoyl Peroxide	94-36-0	50
Dicyclohexyl Phthalate	84-61-7	50

### SECTION 3 - HAZARD IDENTIFICATION OF THE PREPARATION

<b>PHYSICAL HAZARDS</b>	Organic Peroxide - Decomposition. Moderate fire hazard.
<b>HEALTH HAZARDS</b>	Irritant.
<b>EXPOSURE LIMITS</b>	OSHA PEL and ACGIH TWA is 5 mg/m <sup>3</sup> for benzoyl peroxide.
<b>ROUTES OF EXPOSURE</b>	
<b>Skin Absorption</b>	May cause irritation with redness and pain, and skin sensitization in some individuals. Stinging or burning sensation may occur for a brief time after application to skin.
<b>Eye Contact</b>	May cause mild to moderate irritation, redness, swelling, tearing and pain.
<b>Ingestion</b>	May cause irritation to gastrointestinal tract.
<b>Inhalation</b>	No toxic effects are expected by inhalation of fumes or vapors. Inhalation of powder or dusts may be irritating to the upper respiratory tract. Decomposition products are toxic and inhalation of the products can produce life threatening health effects.
<b>EFFECTS OF OVER-EXPOSURE</b>	May cause dermatitis, asthmatic effects, testicular atrophy, and vasodilation. Human mutation data reported.

### SECTION 4 - FIRST-AID MEASURES

<b>Skin</b>	Immediately remove any contaminated clothing. Wash contaminated area thoroughly with soap and copious amounts of water for at least 15 minutes. If irritation or adverse symptoms develop, seek medical attention.
<b>Eyes</b>	Remove any contact lenses at once. Flush eyes with water for at least 15 minutes. Ensure adequate flushing by separating the eyelids with fingers. If irritation or adverse symptoms develop, seek medical attention.
<b>Ingestion</b>	Contact a physician, hospital or Poison Control Center at once. DO NOT INDUCE VOMITING. Give water only if victim is conscious and coherent.
<b>Inhalation</b>	Remove to fresh air, if coughing, breathing becomes labored, irritation develops or other symptoms develop, seek medical attention at once, even if symptoms develop several hours after the exposure.

### SECTION 5 - FIRE-FIGHTING MEASURES

<b>FLASH POINT</b>	Not applicable.
<b>FLAMMABLE LIMITS</b>	Not applicable.
<b>AUTOIGNITION POINT</b>	Not applicable.
<b>FIRE EXTINGUISHER MEDIA</b>	Water from a safe distance - preferably with a fog nozzle. Do not use concentrated stream of water. In case of very small fires, other means such as carbon dioxide, foam or dry chemical extinguishers may be effective.
<b>SPECIAL FIRE FIGHTING PROCEDURES</b>	Firefighters should be equipped with full protective clothing and SCBA's. In case of fire near storage area, cool the containers with water spray.
<b>UNUSUAL FIRE AND EXPLOSION HAZARDS</b>	Container explosion may occur under fire conditions. May explode when heated. May be shock-sensitive. Emits toxic fumes under fire conditions. Contact with other material may cause fire. Self-ignition is possible. May accelerate combustion.

**BENOX<sup>®</sup> C-50****SECTION 6 - ACCIDENTAL RELEASE MEASURES**

<b>STEPS TO BE TAKEN IN EVENT OF SPILL OR RELEASE</b>	Clean up spilled material immediately. Wet with water prior to transfer into disposal container. Cautiously pick up with non-sparking equipment. Transfer material into a clean DOT approved container for proper disposal. Wet again prior to sealing container. Keep ignition sources away from spill. Prevent spill material from entering drains, sewers, streams, etc. Wear necessary PPE as indicated by Section 8. Be sure to following all instructions in Section 7 when storing spilled material.
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**SECTION 7 - HANDLING AND STORAGE**

<b>HANDLING</b>	Keep containers closed to prevent contamination. Rotate stock using the oldest material first. When necessary employ grounding, bonding, and explosion venting due to static discharge. Protect from shock, impact, heat, friction, or blows. Do not use near potential ignition sources (e.g., sparks, flames, smoking, etc.) Use necessary PPE as indicated by Section 8.
<b>STORAGE</b>	Store in a cool, dry, well-ventilated and fire-resistant location. Shield containers from direct sunlight and maintain their temperature at less than 30°C (86°F). <u>DO NOT STORE WITH FOOD OR DRINK.</u> Keep away from potential ignition sources. See NFPA 400 for additional storage information/requirements.
<b>OTHER PRECAUTIONS</b>	Avoid any conditions that may cause contamination. Do not leave material uncovered. Store in proper storage area and remove only as needed. Keep material in its original container. Do not return unused material to its original container. <u>DO NOT USE NEAR FOOD OR DRINK.</u>

**SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION**

<b>VENTILATION</b>	Mechanical, general.
<b>RESPIRATORY PROTECTION</b>	If airborne concentrations are expected to exceed acceptable levels wear a NIOSH/MSHA approved air-purifying respirator with appropriate dust filtration and if necessary an organic vapor cartridge or canister. When using respirators refer to OSHA's 29CFR 1910.134.
<b>EYE PROTECTION</b>	Safety goggles recommended. Permanent eyewash is highly recommended.
<b>HAND PROTECTION</b>	Protective gloves recommended, solvent resistant, such as butyl rubber, nitrile or neoprene.
<b>OTHER</b>	None

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE AND ODOR:</b>	White granular powdery solid with a faint odor.	<b>SPECIFIC GRAVITY:</b>	~ .6 at 25°C
<b>BOILING POINT:</b>	Decomposes.	<b>FLASH POINT:</b>	Not applicable.
<b>VAPOR PRESSURE:</b>	Not established.	<b>FLAMMABLE LIMITS:</b>	Not applicable.
<b>VAPOR DENSITY:</b>	Not established.	<b>SADT:</b>	60°C (140°F)
<b>EVAPORATION RATE:</b>	Not established.	<b>pH:</b>	Not applicable.
<b>% VOLATILE BY VOLUME:</b>	Not established.		
<b>SOLUBILITY IN WATER:</b>	Insoluble.		

**SECTION 10 - STABILITY AND REACTIVITY**

<b>STABILITY</b>	Stable unless exposed to heat, flames and contamination.
<b>MATERIALS TO AVOID</b>	Dimethylaniline, cobalt napthenate and other promoters, accelerators, reducing agents, strong oxidizers, acids, alkalis, transition metal salts or any hot material.
<b>CONDITIONS TO AVOID</b>	Product contamination. Direct sunlight. Open flames. Prolonged storage above 86°F (30°C). Storage above SADT (60°C (140°F)). Storage near flammable or combustible materials.
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	Dense white smoke of benzoic acid; phenyl benzoate; terphenyls; biphenyls: benzene and carbon dioxide. Decomposition products may be flammable.
<b>HAZARDOUS POLYMERIZATION</b>	Will not occur.

**BENOX<sup>®</sup> C-50****SECTION 11 - TOXICOLOGICAL INFORMATION****Benzoyl Peroxide****Information on toxicological effects:****Acute oral toxicity:** LD50 rat: > 5000 mg/kg; Test substance: dibenzoyl peroxide (BP).**Acute inhalation toxicity:** LC0 rat: > 24.3 mg/l; Test substance: dibenzoyl peroxide (BP); Note: Nominal dust concentration.**Acute dermal toxicity:** No data available.**Skin irritation:** No skin irritation.**Eye irritation:** Irritating to eyes.**Sensitization:** Method: LLNA; Test substance: dibenzoyl peroxide (BP). May cause sensitization by skin contact.**Genotoxicity in vitro:** Not mutagenic in Ames Test.**Carcinogenicity:** No data available.**Reproductive toxicity:** No data available.**Teratogenicity:** No data available.**STOT – single exposure:** No data available.**STOT – repeated exposure:** No data available.**Aspiration hazard:** No data available.**Dicyclohexyl Phthalate****Hazard Data:****Oral:** Rat--LD<sub>50</sub>: >2000 mg/kg**SECTION 12 - ECOLOGICAL INFORMATION**

The product should be prevented from entering drains, sewers, streams, etc.

**Benzoyl Peroxide****Toxicity to fish:** EC50 (Poecilia reticulata (guppy)): 0.06 mg/l; Exposure time: 96h; Test substance: dibenzoyl peroxide (BP).**Toxicity to daphnia and other aquatic invertebrates:** EC50 (Daphnia): 0.11 mg/l; Exposure time: 48h; Test substance: dibenzoyl peroxide (BP).**Toxicity to algae:** EC50 (Pseudokirchneriella subcapitata): 0.0422 mg/l; Exposure time: 72h.**Toxicity to bacteria:** EC50: 35 mg/l; Test substance: dibenzoyl peroxide (BP).**Biodegradability:** Result: Readily biodegradable. Method: Closed Bottle Test; Test substance: dibenzoyl peroxide (75% in water).**Bioaccumulative potential:** No data available.**Mobility in soil:** No data available.**Results of PBT and vPvB assessment:** This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).**Other adverse effects:** No data available.**Dicyclohexyl Phthalate****Biological degradability:** 67% after 28. (MITI-test)**Partition coeff - K<sub>ow</sub>:** 1.6x10<sup>6</sup> (log K<sub>ow</sub> = 6.2) (estimated)**Bioconcentration factor (BCF):** 12,000**Aquatic Toxicity****Fish:** (Brach. rerio)--LC<sub>50</sub>: >10,000 mg/l/96hr**Algae:** (Activated sludge)--EC<sub>50</sub>: >10,000 mg/l**SECTION 13 - DISPOSAL CONSIDERATIONS**

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved facility. Processing, use, or contamination of this product may change the waste management options.

Immediately dispose of waste material at a RCRA approved hazardous waste management facility in accordance with federal, state and local regulations. Under RCRA, 40 CFR 261.33, this material is hazardous waste number D003.

**SECTION 14 - TRANSPORT INFORMATION**

<b>DOT Shipping Name:</b>	ORGANIC PEROXIDE TYPE D, SOLID (DIBENZOYL PEROXIDE, ≤50%)
<b>DOT Hazard Class:</b>	5.2
<b>UN/NA ID No.:</b>	UN3106
<b>DOT Packaging Group:</b>	PG II

**BENOX<sup>®</sup> C-50**

**Labels:** 5.2 (Organic Peroxide)  
**IMDG** MARINE POLLUTANT  
**2012 ERG GUIDE NO:** 145

**SECTION 15 - REGULATORY INFORMATION**

The following chemicals are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Percent</u>
Benzoyl Peroxide	94-36-0	50

**Australian Inventory of Chemical Substances (AICS)**

The ingredients in this product are listed in the Australian AICS Inventory.

**Canadian Domestic Substances List (DSL)**

The ingredients in this product are listed in the Canadian DSL Inventory.

**Korean Existing Chemicals List (ECL)**

The ingredients in this product are listed in the Korean Existing Chemicals List.

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

The ingredients in this product are listed in the European EINECS Inventory.

**Japanese Existing and New Chemical Substances (ENCS)**

The ingredients in this product are listed in the Japanese Existing and New Chemical Substances List.

**Philippines Inventory of Chemicals and Chemical Substance (PICCS)**

The ingredients in this product are listed in the Philippines Inventory of Chemicals and Chemical Substance.

**Toxic Substances Control Act (TSCA)**

The ingredient in this product is listed in the US Toxic Substances Control Act Inventory.

**Status of Carcinogenicity**

Not recognized as a carcinogen by the IARC, NTP or OSHA.

**SECTION 16 - OTHER INFORMATION****VOC Information**

None of the ingredients in BENOX<sup>®</sup> C-50 meet the definition of a VOC.

**NFPA 400 Organic Peroxide Classification**

Class IV

**NFPA 704 Rating**

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
1	2	2

**HMIS Rating**

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
1	2	1

**MSDS Reference:** C-50 MSDS 1404.doc

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