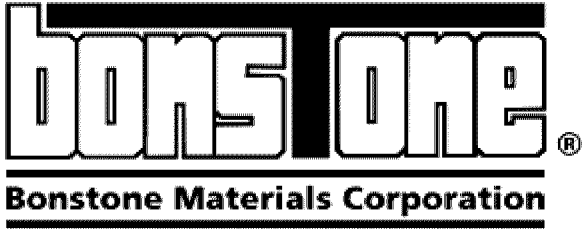


# MATERIAL SAFETY DATA SHEET



Date Issued: 02/20/2007

MSDS No: 58

Revision No: New MSDS

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT CODE:** Last Patch Gel, Part A

### MANUFACTURER

Bonstone Materials Corporation  
707 Swan Drive  
Mukwonago WI 53149

**Emergency Contact:** Mike Beckmann  
**Product Stewardship:** 262-363-9877

### 24 HR. EMERGENCY TELEPHONE NUMBERS

Chemtrec: 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### POTENTIAL HEALTH EFFECTS

**EYES:** Contact may cause eye irritation.

**SKIN:** Prolonged or repeated skin contact may cause irritation.

**INGESTION:** May cause burning inside the mouth, accompanied by nausea, vomiting, and diarrhea.

**INHALATION:** Prolonged inhalation may be harmful.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Branched polyether/polyester resin	Trade secret		
Castor Oil	Trade secret	008001-79-4	- -
Silica, Amorphous	Trade secret	007631-86-9	231-545-4
Aluminum Oxide	Trade secret	001344-28-1	215-691-6
Calcium Oxide	Trade secret	001305-78-8	- -
Sodium Oxide	Trade secret	001313-59-3	215-208-9
Potassium Oxide	Trade secret	012136-45-7	235-227-6
Polymeric benzotriazole	Trade secret	104810-48-2	
Polymeric benzotriazole	Trade secret	104810-47-1	
Poly(oxy-1,2-ethanediyl), A-hydro-w-hydroxy-	Trade secret	025322-68-3	
Polydimethylsiloxane, Silica Adduct	Trade secret	067762-90-7	- -

## 4. FIRST AID MEASURES

**EYES:** Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical

attention.

**SKIN:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Thoroughly wash or discard clothing and shoes before reuse.

**INGESTION:** If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

**NOTES TO PHYSICIAN:** Pre-existing allergies, skin conditions, liver disease or jaundice, kidney disease. Women of childbearing age should avoid exposure.

## 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** (600°F)

**FLAMMABLE LIMITS:** 0 to 0

**GENERAL HAZARD:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**EXPLOSION HAZARDS:** None known. Treat as combustible.

**FIRE FIGHTING PROCEDURES:** Use alcohol foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material. Firefighters and others who may be exposed to products of combustion should wear full firefighting turnout gear and self-contained breathing apparatus. Firefighting equipment should be thoroughly decontaminated after use.

**FIRE EXPLOSION:** None known. Treat as combustible.

## 6. ACCIDENTAL RELEASE MEASURES

**GENERAL PROCEDURES:** Contain spill with dike to prevent entry into sewers.

**RELEASE NOTES:** Notify authorities if any exposures to the general public or environment occurs or is likely to occur.

**SPECIAL PROTECTIVE EQUIPMENT:** Remove contaminated clothing and wash before reuse.

**COMMENTS:** If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in an appropriate chemical waste container. Transfer to containers by suction, preparatory for later disposal. Place in metal containers for recovery or disposal. Flush area with water spray. Clean-up personnel must be equipped with self-contained breathing apparatus and butyl rubber protective clothing. For large spills, recover spilled material with a vacuum truck.

## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Avoid contact with eyes, skin, and clothing.

**HANDLING:** Wash hands before eating and wash before reuse.

**STORAGE:** Store in a tightly closed container.

**COMMENTS:** Follow all MSDS/label precautions even after container is emptied because they may retain product residues.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**EXPOSURE GUIDELINES**

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		SupplierOEL	
Chemical Name		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Silica, Amorphous	TWA	NL	6 mg/m <sup>3</sup>	NL	10 mg/m <sup>3</sup>	NL	NL
	STEL	NL	NL	NL	6 mg/m <sup>3</sup>	NL	NL
Aluminum Oxide	TWA	NL ppm	10 mg/m <sup>3</sup>	NL ppm	10 mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>
	STEL	NL ppm	NL mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>
Polydimethylsiloxane, Silica Adduct	TWA						10 mg/m <sup>3</sup>

**ENGINEERING CONTROLS:** Good general ventilation should be sufficient to control airborne levels.

**PERSONAL PROTECTIVE EQUIPMENT**

**EYES AND FACE:** For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

**RESPIRATORY:** A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**WORK HYGIENIC PRACTICES:** Provide readily accessible eyewash stations and safety showers. Wash at the end of each work shift and before eating, smoking, or using the toilet.

**OTHER USE PRECAUTIONS:** Where contact is likely, wear chemical resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield.

**COMMENTS:** Avoid breathing any (dust, vapor, mist, gas) that may be generated when grinding cured material.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Chemical Name	Flash Point	Boiling Point (°C)	Freezing Point (°C)	Auto Ignition (°C)	Solubility in Water	Specific Gravity
Castor Oil	491					1.25
Polymeric benzotriazole	226	166	-40	405	7.7 ppm in water at 20C (68F)	1.17
Polymeric benzotriazole	237	166	-40	405		1.17
Polydimethylsiloxane, Silica Adduct	600	2230	1700			1.8

**PHYSICAL STATE:** Semisolid

**APPEARANCE:** Clear gel.

**PERCENT VOLATILE:** 0

**BOILING POINT:** to (331°F)

**FLASHPOINT AND METHOD:** (600°F)

**SOLUBILITY IN WATER:** Negligible

**SPECIFIC GRAVITY:** 1.055

## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable.

**POLYMERIZATION:** Will not occur under normal conditions.

**CONDITIONS TO AVOID:** Oxidizing materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon Dioxide and carbon Monoxide may form when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE

Chemical Name	ORAL LD <sub>50</sub> (rat)	DERMAL LD <sub>50</sub> (rabbit)	INHALATION LC <sub>50</sub> (rat)
Polymeric benzotriazole	> 5000 mg/kg (rat)	> 2000 mg/kg	> 5.8 mg/l
Polymeric benzotriazole	> 5000 mg/kg (rat)	> 2000 mg/kg	> 5.8 mg/l
Polydimethylsiloxane, Silica Adduct	> 5000 mg/kg (rat)		

**SUBCHRONIC:** Repeated or prolonged oral exposure may cause liver or kidney changes, which may be seen as liver enlargement and altered enzyme/protein levels. Embryofetal survival may be affected. These effects are based on animal studies.

**SENSITIZATION:** (Guinea pigs): Strong sensitizing potential using the maximization test, with 70% of the animals sensitized.

**TARGET ORGANS:** A 28-day oral gavage study was conducted in the rat at doses of 10, 50, 200, and 1,000 mg per kilogram per day. Fatalities were seen at the high dose. Foci of liver necrosis were found at the two highest doses with kidney tubule degeneration also present in the high-dose males. The NOEL was 10 mg per kilogram per day.

During a 90 day oral gavage study, rats received daily doses of 0, 2, 5, 10 and 50 mg per kilogram of product. The 10 mg per kilogram dose animals had a recovery period of 30 days. Alterations in liver-related parameters, (increased serum alkaline phosphatase and albumin/globulin ratios) in the two high dose groups identified the liver as the primary target organ. Relative liver weight was increased at all dose levels. Hepatic cell hypertrophy was found in some high-dose males as were changes in various hematology values. All effects were completely or partially reversible during recovery period. The no observable adverse effect level (NOAEL) was 10 mg per kilogram per day.

### TERATOGENIC EFFECTS: Teratogenicity/Reproductive Toxicity:

In a fertility and general reproductive performance study, male and female rats were administered 2, 50, and 100 mg per kilogram before, during, and after mating/conception. The test substance was found to cause decreased body weight, food consumption and liver effects in parents treated with 50 and 100 mg per kilogram. Kidney effects were also recorded in males at 50 and 100 mg per kilogram, and females at 100 mg per kilogram dose levels. In the males, the liver and kidney effects were associated with increased accumulation of iron-positive pigment. No effects on male and female fertility were recorded. An increased number of stillborn pups was reported at the 50 and 100 mg per kilogram dose levels. Increased pup mortality immediately after birth, reduced birthweight and weight gain, and delayed physical development were recorded at the 100 mg per kilogram dose level. These effects are believed to be associated with prenatal exposure only. The no observable effect level (NOEL) was determined to be 2 mg per kilogram.

A rat teratology study was conducted by the oral gavage route using doses of 1, 30, and 150 mg per kilogram on gestation days 6-15. Dams showed either a decreased body weight gain or food consumption at the mid/high doses. The only effect on the fetus was a delay in ossification at the high dose. Teratogenicity was not seen. The fetal NOEL was 30 mg per kilogram.

**GENERAL COMMENTS:** Not determined.

**COMMENTS:** Other Toxicity Data:

Selected biochemical and morphologic studies were conducted on male rats dosed for 114 days in the fertility study as well as female rats and fetuses of the high-dose teratology group. The liver was considered the target organ based on previously identified structural comparisons with similar compounds. The findings included the presence of peroxisome proliferation, as confirmed by electron microscopy, in both fetal and adult rats. Other common findings were an increase in the levels of fatty acid beta oxidation and lauric acid hydroxylation products. The fetal livers showed evidence of oxidative stress based on a decrease in total glutathione content, an increase in malondialdehyde levels and a lack of glycogen accumulation. The levels of different cytochrome P-450 enzymes as well as various transferases were only investigated in male rats. Changes were seen that are consistent with peroxisome proliferation. The NOEL was < 2 mg per kilogram per day.

## 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** Chemical Oxygen Demand (COD): 1.84g COD/g

**BIOACCUMULATION/ACCUMULATION:** Bioaccumulation in rainbow trout: for concentrations of 0.08 and 0.5 ppm, the steady state biochem situation factors were 26 and 34, respectively, which are comparatively low values. The elimination time of < 1 week for 90% of test substance indicates rapid elimination.

Biodegradability: modified Sturm test: not readily biodegradable, with 12-24% in 28 days.

**COMMENTS:** No information.

## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Recover, reclaim or recycle when practical. Dispose of in accordance with federal, state and local regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements be be more restrictive or otherwise different from federal laws and regulations.

## 14. TRANSPORT INFORMATION

**COMMENTS:** Not regulated by DOT

## 15. REGULATORY INFORMATION

### UNITED STATES

#### TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Aluminum Oxide	001344-28-1
Poly(oxy-1,2-ethanediyl), A-hydro-w-hydroxy-	025322-68-3
Polydimethylsiloxane, Silica Adduct	067762-90-7

**TSCA STATUS:** This product and/or all of it's components is/are listed on the TSCA Inventory.

**STATES WITH SPECIAL REQUIREMENTS**

<b>Chemical Name</b>	<b>Requirements</b>
Castor Oil	NJ, PA, CN: Castor Oil is on the Right-to-Know list for these states.
Silica, Amorphous	MA, NJ, PA: Amorphous Silica is on the Right-to-Know list for these states.
Aluminum Oxide	PA, CN, NJ: Aluminum Oxide is on the Right-to-know lists for these states.
Calcium Oxide	PA, CN, MA, NJ: Calcium Oxide is on the Right-to-know lists for these states.
Sodium Oxide	NJ, PA: Sodium Oxide is on the Right-to-Know list for these states.
Potassium Oxide	NJ, PA: Potassium Oxide is on the Right-to-Know list for these states.
Polymeric benzotriazole	NJ: New Jersey Right-to-Know: The following is required composition information: Common Name: Polymeric benzotriazole derivative CASRN: 104810-48-2
Polymeric benzotriazole	NJ: New Jersey Right-to-Know: The following is required composition information: Common Name: Polymeric benzotriazole derivative CASRN: 104810-47-1
Poly(oxy-1,2-ethanediyl), A-hydro-w-hydroxy-	NJ: New Jersey Right-to-Know: The following is required composition information: Chemical Name: Poly (oxy-1,2-ethanediyl), alpha-hydro-omega-hydroxy- Common Name: Polyethylene Glycol CASRN: 25322-68-3

**16. OTHER INFORMATION**

**REASON FOR ISSUE:** New MSDS format

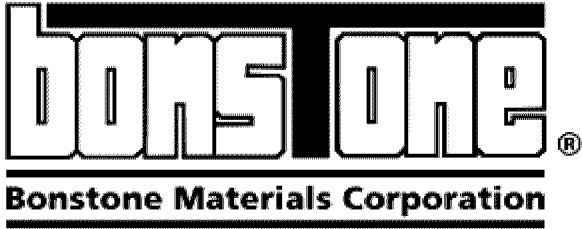
**APPROVED BY:** Mike Beckmann     **TITLE:** President

**INFORMATION CONTACT:** Mike Beckmann

**REVISION SUMMARY:** New MSDS

**MANUFACTURER DISCLAIMER:** 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 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 any process, unless specified in the text.

# MATERIAL SAFETY DATA SHEET



Date Issued: 02/20/2007

MSDS No: 59

Revision No: New MSDS

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT CODE:** Last Patch Gel Part B

### MANUFACTURER

Bonstone Materials Corporation  
707 Swan Drive  
Mukwonago WI 53149  
**Emergency Contact:** Mike Beckmann  
**Product Stewardship:** 262-363-9877

### 24 HR. EMERGENCY TELEPHONE NUMBERS

Chemtrec: 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**IMMEDIATE CONCERNS:** Single dose toxicity is low to moderate. If vomiting occurs, liquid can be aspirated into lungs, causing chemical pneumonia/systemic effects. Psychotropic, CNS, and gastrointestinal effects possible.

### POTENTIAL HEALTH EFFECTS

**EYES:** Irritating, and may injure eye tissue if not removed promptly.

**SKIN:** May cause skin irritation. Allergic reactions are possible.

**SKIN ABSORPTION:** May be absorbed through the skin in harmful amounts.

**INGESTION:** Irritating to mouth, throat and stomach.

**INHALATION:** Irritating to the nose, throat and respiratory tract.

### SIGNS AND SYMPTOMS OF OVEREXPOSURE

**EYES:** Causes eye irritation.

**SKIN:** Contact causes skin irritation.

**INGESTION:** Ingestion of this material can cause mouth, throat, esophageal, and gastrointestinal tract irritation.

**INHALATION:** May cause respiratory sensitization or asthma in susceptible individuals. Excessive exposure may cause irritation upper respiratory tract.

**CHRONIC EFFECTS:** Prolonged or repeated overexposure may cause lung damage.

**IRRITANCY:** Harmful by inhalation, contact with skin/eyes, and if swallowed.

**SENSITIZATION:** May cause skin sensitization, an allergic reaction which becomes evident on exposure to this material.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS	EINECS
Homopolymer of hexamethylene diisocyanate	Trade secret	28182-81-2	
1,6-hexamethylene Diisocyanate	Trade secret	000822-06-0	- -
Polydimethylsiloxane, Silica Adduct	Trade secret	067762-90-7	- -

#### 4. FIRST AID MEASURES

**EYES:** Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

**SKIN:** Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

**INGESTION:** Get medical attention immediately.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

#### 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** (460°F)

**FLAMMABLE LIMITS:** 0 to 0

**GENERAL HAZARD:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**FIRE FIGHTING PROCEDURES:** Use alcohol foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material. Firefighters and others who may be exposed to products of combustion should wear full firefighting turnout gear and self-contained breathing apparatus. Firefighting equipment should be thoroughly decontaminated after use.

#### 6. ACCIDENTAL RELEASE MEASURES

**RELEASE NOTES:** Notify authorities if any exposures to the general public or environment occurs or is likely to occur.

**SPECIAL PROTECTIVE EQUIPMENT:** Remove contaminated clothing and wash before reuse.

**COMMENTS:** If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in an appropriate chemical waste container. Transfer to containers by suction, preparatory for later disposal. Place in metal containers for recovery or disposal. Flush area with water spray. Clean-up personnel must be equipped with self-contained breathing apparatus and butyl rubber protective clothing. For large spills, recover spilled material with a vacuum truck.

#### 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Avoid contact with eyes, skin, and clothing.

**HANDLING:** Contents may develop pressure upon prolonged storage.

**STORAGE:** Store in a cool dry place.

**COMMENTS:** Follow all MSDS/label precautions even after container is emptied because they may retain product residues.



## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
				EXPOSURE LIMITS			
				ACGIH TLV		SupplierOEL	
Chemical Name				ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
1,6-hexamethylene Diisocyanate				TWA	0.005		
Polydimethylsiloxane, Silica Adduct				TWA			10 mg/m <sup>3</sup>

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

**RESPIRATORY:** A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**WORK HYGIENIC PRACTICES:** Provide readily accessible eyewash stations and safety showers. Wash at the end of each work shift and before eating, smoking, or using the toilet.

**OTHER USE PRECAUTIONS:** Where contact is likely, wear chemical resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Flash Point	Boiling Point (°C)	Freezing Point (°C)	Specific Gravity
Homopolymer of hexamethylene diisocyanate	460			1.168
1,6-hexamethylene Diisocyanate	460			1.168
Polydimethylsiloxane, Silica Adduct	600	2230	1700	1.8

**PHYSICAL STATE:** Semisolid

**APPEARANCE:** Clear gel.

**PERCENT VOLATILE:** 0

**FLASHPOINT AND METHOD:** (460°F)

**SOLUBILITY IN WATER:** Negligible

**SPECIFIC GRAVITY:** 1.189

## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable.

**POLYMERIZATION:** May occur.

**CONDITIONS TO AVOID:** Contact with moisture or other materials which react with isocyanates, or temperatures above 400 F, may cause polymerization.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Nitrogen oxides, carbon dioxide, and carbon monoxide.

**INCOMPATIBLE MATERIALS:** Strong bases, strong oxidizing agents, heat, open flame, amines, direct contact with water.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE

Chemical Name	ORAL LD <sub>50</sub> (rat)	DERMAL LD <sub>50</sub> (rabbit)	INHALATION LC <sub>50</sub> (rat)
1,6-hexamethylene Diisocyanate	738	593	60
Polydimethylsiloxane, Silica Adduct	> 5000 mg/kg (rat)		

**SKIN EFFECTS:** May cause severe injury to skin following prolonged or repeated contact, and may cause skin sensitization or other allergic responses.

## 12. ECOLOGICAL INFORMATION

**COMMENTS:** No information.

## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Recover, reclaim or recycle when practical. Dispose of in accordance with federal, state and local regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements be be more restrictive or otherwise different from federal laws and regulations.

## 14. TRANSPORT INFORMATION

**COMMENTS:** Not regulated by DOT

## 15. REGULATORY INFORMATION

### UNITED STATES

#### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

##### EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt. %	CAS
1,6-hexamethylene Diisocyanate	Trade secret	000822-06-0

#### TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Polydimethylsiloxane, Silica Adduct	067762-90-7

**TSCA STATUS:** This product and/or all of it's components is/are listed on the TSCA Inventory.

## 16. OTHER INFORMATION

**REASON FOR ISSUE:** New MSDS format

**APPROVED BY:** Mike Beckmann      **TITLE:** President

**INFORMATION CONTACT:** Mike Beckmann

**REVISION SUMMARY:** New MSDS

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