

**MATERIAL SAFETY DATA SHEET**  
**Polyken Liquid Adhesive (1019 Series)**

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING**

**Product Name** Polyken Liquid Adhesive (1019 Series)  
**Use/Size** Pipe Corrosion Protection  
**Product Numbers** 1019, 1019S, 1019SPR, 1019SY  
**Manufacturer/Supplier** Berry Plastics Corporation, Tapes and Coatings Division  
**Address** 2320 Bowling Green Road  
Franklin, Kentucky  
**Phone Number** (270) 586-3261 (Monday – Friday 8:00 am to 5:00 pm)  
**Chemtrec Number** (800) 424-9300  
**Revision Date:** November 30, 2012  
**MSDS Date:** August 9, 2007

*Safety Data Sheet according to OSHA's Hazcom Standard (29 CFR 1910.1200)*

**2. HAZARDS IDENTIFICATION**

**Emergency Overview**

**WARNING!**

Extremely flammable liquid and vapor.  
Aspiration Hazard – May cause lung damage or death if swallowed.  
Causes irritation to eyes, nose and respiratory tract.  
Prolonged, repeated contact, inhalation, ingestion, or absorption through the skin may cause adverse effects to internal organ systems.  
Harmful to aquatic organisms.

**Routes of Entry**

Absorption - Eye contact - Ingestion - Inhalation - Skin contact

**Carcinogenic Status**

See section 11.

**Target Organs**

Central Nervous System - Skin - Eye - Liver - Kidney - Respiratory System - Reproductive - Optic Nerve - Heart

**Health Effects - Eyes**

Liquid, mist or vapor may cause pain, transient irritation and superficial corneal effects.

**Health Effects - Skin**

Material may cause irritation and allergic sensitization. Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis. Material can be absorbed through the skin and cause effects similar to those resulting from inhalation.

**Health Effects - Ingestion**

Swallowing may have the following effects:

- abdominal pain - vomiting - central nervous system depression - kidney damage - liver damage – testis damage – aspiration into the lungs may occur during ingestion or vomiting causing lung damage or death - visual impairment and blindness

A large dose may have the following effects:

- systemic effects similar to those resulting from inhalation

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## 2. HAZARDS IDENTIFICATION

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### Health Effects - Inhalation

Exposure to vapor may have the following effects:

- irritation of nose, throat and respiratory tract - central nervous system depression - dizziness - drowsiness - headache - mental confusion - allergic sensitization

Exposure to vapor at high concentrations may have the following effects:

- nerve damage leading to numbness and muscle weakness - lung damage - liver damage - kidney damage - testis damage - adverse reproductive effects - cardiac arrhythmias - visual impairment and blindness

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Component Name	CAS#/Codes	Concentration
Heptanes*	64742-49-0	65-80%
Polymers and Resins	N.A.	5 - 20%
Toluene	108-88-3	1- 5%
Methanol	67-56-1	1- 5%
Carbon Black	1333-86-4	1-5%

\* - May be composed, in whole or in part, of any of the following refinery streams:  
Naphtha, petroleum, hydrotreated light (CAS No. 64742-49-0)

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## 4. FIRST AID MEASURES

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### Eyes

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

### Skin

Immediately flood the skin with large quantities of water for at least 15 minutes, preferably under a shower. Remove contaminated clothing and continue washing. Contaminated clothing should be washed or dry-cleaned before re-use. Obtain medical attention if blistering occurs or redness persists.

### Ingestion

Do not induce vomiting, unless directed to do so by a physician. Have victim drink 1-3 glasses of water to dilute stomach contents. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

### Inhalation

Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

### Advice to Physicians

Treat symptomatically.

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## 5. FIRE - FIGHTING MEASURES

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### Extinguishing Media

Use foam, dry chemical or carbon dioxide. Be aware of the possibility of re-ignition. Keep containers and surroundings cool with water spray.

### Unusual Fire and Explosion Hazards

Vapors can travel a considerable distance to a source of ignition and flashback. Flashback can occur if air temperature exceeds flash point. Be aware of possibility of re-ignition.

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## 5. FIRE FIGHTING MEASURES

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### Protective Equipment for Fire-Fighting

Wear full protective clothing and self-contained breathing apparatus.

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## 6. ACCIDENTAL RELEASE MEASURES

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Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Wear appropriate protective clothing. Eliminate all sources of ignition. Use non-sparking scoops for flammable materials. Vapors can accumulate in low areas. Consider need for evacuation. Prevent the material from entering drains or watercourses. Notify authorities if spill has entered watercourse or sewer or has contaminated soil or vegetation.

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## 7. HANDLING AND STORAGE

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Keep from reach of children. Use in well ventilated area. Use local exhaust ventilation. Avoid inhaling vapor. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use. Store away from sources of heat or ignition. Storage area should be: - cool - dry - well ventilated - out of direct sunlight – away from sources of ignition(heat, sparks, flames, pilot lights) - away from incompatible materials (see Section 10)

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Occupational Exposure Standards

Exposure limits are listed below, if they exist.

#### Toluene

ACGIH: TLV 20ppm (75 mg/m<sup>3</sup>) 8h TWA

OSHA: PEL 200ppm 8h TWA. 300 ppm CEILING, 500 ppm 10-min peak per shift.

#### Heptanes

##### Heptane

Manufacturer Calculated Exposure Level: 342 ppm (1400 mg/m<sup>3</sup>) 8h

Notes: From Appendix H ("Reciprocal Calculations Method for Certain Refined Hydrocarbon Solvent Vapors") of the ACGIH TLVs ® and BEIs® guidelines.

##### Heptane, all isomers

ACGIH: TLV 400 ppm 8h TWA. 500 ppm STEL.

OSHA: PEL 500 ppm 8h TWA.

##### Octanes, all isomers

ACGIH: TLV 300 ppm 8h TWA.

OSHA: PEL 500 ppm 8h TWA.

##### Methylcyclohexane

ACGIH: TLV 400 ppm 8h TWA

OSHA: PEL 500 ppm 8h TWA.

#### Methanol

ACGIH TLV: 200 ppm (262 mg/m<sup>3</sup>) 8h TWA, 250 ppm (328 mg/m<sup>3</sup>) STEL (15 min.)

Skin Designation: air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.

OSHA PEL: 200 ppm (260mg/m<sup>3</sup>) 8h TWA

#### Carbon Black

ACGIH: TLV 3.5 mg/m<sup>3</sup> 8h TWA

OSHA: PEL 3.5 mg/m<sup>3</sup> 8h TWA

#### Polymers and Resins

None assigned.

#### Engineering Control Measures

Use engineering methods to prevent or control exposure. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Respiratory Protection

Wear respiratory protection if there is a risk of exposure to high vapor concentrations, aerosols or if applied to hot surfaces. A NIOSH approved full face respirator may be worn. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

### Hand Protection

Butyl gloves are recommended.

### Eye Protection

Chemical goggles or safety glasses with side shields

### Body Protection

If there is danger of splashing, wear: - overall or apron

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical State	Liquid
Color	Black
Odor	Hydrocarbon solvent
pH	Neutral
Density (lbs/gal)	<b>1019:</b> 6.5 <b>1019SPR:</b> 6.27 <b>1019SY:</b> 6.27 <b>1019S:</b> 6.5
Boiling Range/Point (°C/F)	~93/199
Melting Point (°C/F)	Not determined
Flash Point (PMCC) (°C/F)	-9/15 (heptanes)
Vapor Pressure	45 mm Hg (20C) (heptanes)
Evaporation Rate (BuAc=1)	Not determined
Solubility in Water	Negligible
Vapor Density (Air = 1)	3 (heptane)
VOC (g/l)	<b>1019:</b> 607 <b>1019SPR:</b> 650 <b>1019SY:</b> 650 <b>1019S:</b> 582

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## 10. STABILITY AND REACTIVITY

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### Stability

Stable under normal conditions.

### Conditions to Avoid

Heat, sparks, flames - High temperatures - sources of ignition - welding arcs - pilot lights - static electricity - contact with incompatible materials

### Materials to Avoid

Strong oxidizing agents - acids - bases - reducing agents

### Hazardous Polymerization

Will not occur.

### Hazardous Decomposition Products

Oxides of carbon - hydrocarbons - phenolic vapors - aldehydes - smoke - fumes

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity

Toluene: Oral LD50 rat >2,000 mg/kg  
Dermal LD50 rabbit >3,000 mg/kg  
Inhalation LC50(rat) 28.1 mg/l 4hr  
Methanol: Oral LD50 (rat) 5300 mg/kg  
Dermal LD50 (rabbit) 15,800 mg/kg  
Inhalation LC50 (rat) 64 mg/l, 4h  
Carbon Black: LD50 (rat) >8000 mg/kg

### Specific Target Organ Systemic Toxicity (single and repeat)

Toluene: Adverse effects to central nervous system, liver, kidney and heart have been observed in laboratory animal studies.

Methanol: May cause adverse effects to central nervous system, liver, kidneys and heart and optic nerve.

Heptanes: May cause adverse effects to central nervous system, liver and kidneys.

### Serious Eye damage/Eye Irritation

Toluene: Causes irritation to rabbit eyes.

Methanol: Moderately irritating to eye.

### Skin Corrosion/Irritation

Toluene: Causes moderate irritation to rabbit skin.

Methanol: Moderately irritating to skin.

### Respiratory or Skin Sensitization

Toluene: Did not cause sensitization in laboratory animals.

Carbon Black: No evidence of sensitization was found in animals. No cases of sensitization in humans have been reported.

Methanol: Not sensitizing in guinea pig maximization studies.

Resin (phenolic): May cause skin sensitization.

### Carcinogenicity

Toluene: No evidence of carcinogenic activity in laboratory animal studies.

Carbon Black is classified by IARC: Group 2B possible human carcinogen. When encapsulated in the liquid matrix the risk of exposure is reduced.

### Germ Cell Mutagenicity

Toluene: Negative Ames Test with and without metabolic activation.

Heptanes, all isomers: n-heptane was not mutagenic in the Ames assay.

Carbon Black: Not considered to be mutagenic based on in vivo studies.

Methanol: Negative Ames test with and without metabolic activation.

### Toxicity to Reproduction

Toluene: In laboratory studies, birth defects, increased fetal lethality and delayed fetal development have been observed in offspring of female animals exposed during pregnancy. Toluene has been demonstrated to be embryofetotoxic and teratogenic in laboratory animals.

Carbon Black: No reproductive effects have been reported in long term animal studies.

Methanol: There are conflicting laboratory animal studies as to whether methanol causes adverse reproductive effects. Some studies results show methanol has produced fetotoxicity in rats and teratogenicity in mice exposed by inhalation to high concentrations that did not produce significant maternal toxicity.

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## 12. ECOLOGICAL INFORMATION

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### Mobility

No relevant studies identified.

### Persistence/Degradability

No relevant studies identified.

### Bio-accumulation

No relevant studies identified.

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**12. ECOLOGICAL INFORMATION**

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**Ecotoxicity**

Toluene: LC50 Fathead minnow (Pimephales promelas) 34.27 mg/l 96hr

EC50 Daphnia magna 11.5 mg/l 48 h

Carbon Black: LC50 Zebra fish >1000mg/l 96hr

EC50 Water flea >5600 mg/l 24hr

EC50 Algae >10,000 mg/l 72hr

Methanol: Bluegill sunfish LC50:15,400 mg/l 96hr

Daphnia Magna EC50: >100 mg/l 96 hr

Heptanes: Expected to be 1-10mg/l based on data from similar components.

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**13. DISPOSAL CONSIDERATIONS**

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Dispose of in accordance with all applicable local and national regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near to the container. Use non-sparking tools. Do not incinerate closed containers. Empty containers may contain hazardous residues. Dispose of containers with care.

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**14. TRANSPORT INFORMATION**

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<b>DOT CFR 172.101 Data</b>	Coating Solution (3) UN1139, II
<b>UN Proper Shipping Name</b>	Coating Solution
<b>UN Class</b>	(3)
<b>UN Number</b>	UN1139
<b>UN Packaging Group</b>	II
<b>Classification for AIR Transportation (IATA)</b>	Consult current IATA Regulations prior to shipping by air.

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**15. REGULATORY INFORMATION**

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**US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS****TSCA Listing**

All ingredients have been verified for inclusion on the EPA Toxic Substance Control Act Chemical Substance Inventory.

**EINECS Listing**

All ingredients in this product have not been verified for inclusion on the European Inventory of Existing Commercial Chemical Substances (EINECS) or specifically exempted.

**DSL (Canadian) Listing**

All ingredients in this product have not been verified for inclusion on the Domestic Substance List (DSL).

**California Proposition 65**

This product contains the following materials which the State of California has found to cause cancer, birth defects or other reproductive harm: Toluene (108-88-3) - Quartz (14808-60-7) <0.01% - Ethylbenzene (100-41-4) <0.1% - Formaldehyde (50-00-0) trace - Benzene (71-43-2) <0.01% - Methanol(67-56-1)

**SARA Title III Sect. 302 (EHS)**

This product does not contain any chemicals subject to SARA Title III Section 302.

**SARA Title III Sect. 304**

The following chemicals have reportable quantities: - Toluene 1000# - Methanol 5000#

**SARA Title III Sect. 311/312 Categorization**

Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard, Fire Hazard

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**15. REGULATORY INFORMATION**

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**SARA Title III Sect. 313**

This product contains a chemical that is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: Toluene (108-88-3) - Methanol (67-56-1)

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**16. OTHER INFORMATION**

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**NFPA Ratings**

NFPA Code for Flammability - 3  
NFPA Code for Health - 2  
NFPA Code for Reactivity - 0  
NFPA Code for Special Hazards – None

**HMIS Ratings**

HMIS Code for Flammability - 3  
HMIS Code for Health - \*2  
HMIS Code for Physical Hazard - 0  
HMIS Code for Personal Protection - See Section 8

\*Chronic

**Abbreviations**

N/A: Denotes no applicable information found or available  
CAS#: Chemical Abstracts Service Number  
ACGIH: American Conference of Governmental Industrial Hygienists  
OSHA: Occupational Safety and Health Administration  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
STEL: Short Term Exposure Limit  
NTP: National Toxicology Program  
IARC: International Agency for Research on Cancer

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