



# Material Safety Data Sheet

## K-RESIN® COPOLYMERS

February 15, 2002  
MSDS #: 248900  
Revision: 2

CHEVRON PHILLIPS CHEMICAL COMPANY LP  
1301 McKinney Street  
Houston, Texas 77010-3030

### PHONE NUMBERS

Emergency: (800) 231-0623 or  
(510)231-0623 (International)  
TRANSPORTATION (24 HR): CHEMTREC  
(800)424-9300 OR (703)527-3887  
Technical Services: (800) 852-5531  
For Additional MSDSs: (800) 852-5530

### A. Product Identification

Synonyms: Styrene-butadiene copolymer  
Chemical Name: Styrene-butadiene copolymer  
Chemical Family: Styrene copolymer  
Chemical Formula:  $(C_8H_8)-(C_4H_6)_x$   
CAS Reg. No.: 9003-55-8  
Product No.: K-Resin BK, CK, DK, KR, KK, MK, SKR and XK Series

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it may be subject to applicable TSCA provisions and restrictions.

Canadian Inventory Listing Status: DSL

All ingredients are listed in the Domestic Substances List (DSL). Impurities are exempt in accordance with Section 3 of the Canadian Environmental Protection Act (CEPA).

### B. Components

Ingredients	CAS Number	% By Wt.	OSHA PEL*	ACGIH TLV*
-------------	---------------	-------------	--------------	---------------

The specific chemical identity of this material is being withheld as a trade secret. In the event of a medical emergency, it will be provided to a treating physician or nurse through utilization of the above Emergency Telephone Number.

See Section F, Recommended Exposure Limits

This product does not meet the definition of a hazardous chemical given in 29 CFR Part 1910.1200 (OSHA). Information on this form is furnished as a customer service.

\* See Health Hazard Data (Section F).

## **C. Personal Protection Information**

Ventilation: Use adequate ventilation to control below recommended exposure levels.

Respiratory Protection: Not generally required unless needed to prevent respiratory irritation. For concentrations exceeding the recommended exposure level, use NIOSH approved respirator.

Eye Protection: Use safety glasses with side shields.

Skin Protection: Not generally required.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. 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.

## **D. Handling and Storage Precautions**

Avoid breathing vapors, mist, fume or dust. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash thoroughly after handling. Launder contaminated clothing before reuse. Use with adequate ventilation.

Store in closed container. Store in well-ventilated area.

## **E. Reactivity Data**

Stability: Stable

Conditions to Avoid: Not Established

Incompatibility (Materials to Avoid): Oxidants

Hazardous Polymerization: Will not Occur

Conditions to Avoid: Not Established

Hazardous Decomposition Products: Carbon oxides and various hydrocarbons formed when burned.

## F. Health Hazard Data

### Recommended Exposure Limits:

Control as Particulate Not Otherwise Classified (PNOC) or Regulated:

	OSHA PEL	ACGIH TLV
Respirable Fraction	5 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>
Total Dust	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>

During the processing of K-Resin® copolymers, as is the case with other polymers, small amounts of gases may be released. At a typical processing temperature of 425 F (218 C), headspace analysis of a K-Resin® sample identified low level emissions of volatile organic compounds, including acrolein and cyclohexane. During the processing of K-Resin® copolymers, it is possible that the workplace atmospheres could contain vapors of these compounds. Evaluation of the workplace atmosphere for these two compounds will indicate whether additional exhaust ventilation is appropriate.

### Acute Effects of Overexposure:

**Eye:** This material is not irritating though dust from the material may cause mechanical irritation to the eyes. Fumes/Vapors produced during processing may be irritating to the eyes.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation.

**Inhalation:** This material is not irritating though dust from the material may cause mechanical irritation to the mucous membranes of the nose, throat and upper respiratory tract. Vapors produced during processing can be irritating to mucous membranes of the upper respiratory tract.

**Ingestion:** This material is inert and is essentially non-toxic if swallowed.

### Subchronic and Chronic Effects of Overexposure:

Long term exposure to high dust concentrations may cause non-debilitating lung changes.

A 90 day feeding study in rats given diets containing up to 5% K-Resin® (powdered) indicated no adverse effects.

### Other Health Effects:

Combustion (burning) of most carbon-containing material forms carbon monoxide. Carbon monoxide inhalation may cause carboxyhemoglobinemia.

Chronic exposure to carbon monoxide causes fatigue, poor memory, loss of sensation in fingers, visual disturbances and insomnia. Carboxyhemoglobinemia is frequently misdiagnosed as flu.

Sensitive sub-populations to the inhalation of carbon monoxide exist. Carbon monoxide displaces oxygen in the bloodstream and therefore, can adversely effect people with pre-existing heart disease, pregnant women and smokers.

**Health Hazard Categories:**

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	___	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	___	___
Allergic Sensitizer	___	___	Specify - No known applicable		
Highly Toxic	___	___	information.		

Canadian WHMIS

CLASS D: POISONOUS AND INFECTIOUS MATERIAL CATEGORIES

1. Materials Causing Immediate and Serious Toxic Effects

- A. Very Toxic \_\_\_\_\_
- B. Toxic \_\_\_\_\_

2. Materials Causing Other Toxic Effects

- A. Very Toxic
  - 1. Chronic Toxic Effects \_\_\_\_\_
  - 2. Teratogen/Embryo Toxin \_\_\_\_\_
  - 3. Carcinogen \_\_\_\_\_
  - 4. Reproductive Toxin \_\_\_\_\_
  - 5. Respiratory Tract Sensitizer \_\_\_\_\_
  - 6. Mutagen \_\_\_\_\_
- B. Toxic
  - 1. Chronic Toxic Effects \_\_\_\_\_
  - 2. Skin or Eye Irritant \_\_\_\_\_
  - 3. Skin Sensitizer \_\_\_\_\_
  - 4. Mutagen \_\_\_\_\_

**First Aid and Emergency Procedures:**

NOTE: For thermal burns, cool quickly with water and seek immediate medical attention. Do not peel off solidified material.

Eye: Flush eyes with running water. If irritation or adverse symptoms develop, seek medical attention.

Skin: Wash skin with soap and water. If irritation or adverse symptoms develop, seek medical attention.

Inhalation: Remove from exposure. If illness or adverse symptoms develop, seek medical attention.

Ingestion: If illness or adverse symptoms develop, seek medical attention.

## G. Physical Data

Appearance: Clear solid (pellets)

Odor: Mild

Boiling Point: Not Applicable

Vapor Pressure: Not Applicable

Vapor Density (Air = 1): >2

Solubility in Water: Negligible

Specific Gravity (H<sub>2</sub>O = 1): Density is 1.0 g/cm

Percent Volatile by Volume: 0.2

Evaporation Rate (Butyl Acetate = 1): <1

Viscosity: Not Applicable

## H. Fire and Explosion Data

Flash Point (Method Used): Not Established

Flammable Limits (% by Volume in Air): LEL - Not Applicable

UEL - Not Applicable

Fire Extinguishing Media: Dry chemical, foam or carbon dioxide (CO<sub>2</sub>)

Special Fire Fighting Procedures: Evacuate area of all unnecessary personnel. Shut off source, if possible. Use NIOSH approved self-contained breathing apparatus and other protective equipment and/or garments described in Section C if conditions warrant. Water fog or spray may be used to cool exposed equipment and containers.

Fire and Explosion Hazards: Smoke and noxious gases (carbon oxides and hydrocarbons) released when burned.

## **I. Spill, Leak and Disposal Procedures**

Precautions Required if Material is Released or Spilled:

Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Transfer spilled material to disposal drums.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):

Incinerate or place in waste management facility.

## **J. DOT Transportation**

Shipping Name: Not Regulated

Hazard Class: Not Regulated

ID Number: Not Regulated

Packing Group: Not Regulated

Marking: Not Regulated

Label: Not Regulated

Placard: Not Regulated

Hazardous Substance/RQ: Not Regulated

Shipping Description: Not Regulated

Packaging References: Not Regulated

## **K. RCRA Classification - Unadulterated Product as a Waste**

Prior to disposal, consult your environmental contact to determine if the TCLP (Toxicity Characteristic Leaching Procedure, EPA Test Method 1311) is required. Reference 40 CFR Part 261.

## **L. Protection Required for Work on Contaminated Equipment**

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

## **M. Hazard Classification**

Does not meet the criteria for hazard classification specified by the Hazardous Products Act Controlled Products Regulations.

# N. Additional Comments

## REVISION STATEMENT

This revision updates the entire MSDS.

SARA 313

As of the preparation date, this product did not contain a chemical or chemicals 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.

NFPA 704 Hazard Codes - - - - - Signals

		Least - 0
Health	: 0	Slight - 1
Flammability:	1	Moderate - 2
Reactivity	: 0	High - 3
Special Haz.:	-	Extreme - 4

## REFERENCES

ACGIH American Conference of Government Industrial Hygienists  
ASTM American Society of Testing and Materials  
CFR Code of Federal Regulations, U.S.  
DOT Department of Transportation, U.S.  
EPA Environmental Protection Agency, U.S.  
IARC International Agency for Research on Cancer  
MSHA Mine Safety and Health Administration, U.S.  
NFPA National Fire Protection Association  
NIOSH National Institute of Occupational Safety and Health, U.S.  
NTP National Toxicology Program, U.S.  
OSHA Occupational Safety and Health Administration, U.S.  
RCRA Resource Conservation and Recovery Act, U.S.  
SARA Superfund Amendments and Reauthorization Act, U.S.  
TSCA Toxic Substance Control Act, U.S.

Chevron Phillips Chemical Company LP believes that the information contained herein (including data and statements) is accurate as of the date hereof. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE AS CONCERNS THE INFORMATION HEREIN PROVIDED. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and information referred to herein are beyond the control of Chevron Phillips, Chevron Phillips expressly disclaims any and all liability as to any results obtained or arising from any use of the product or such information. No statement made herein shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents.