



Phillips Sumika
Polypropylene Company

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

MARLEX® POLYPROPYLENES (ALL GRADES)

Product Use: Coatings
 Synonyms: PLASTIC
 Product Cas No.: MIXTURE

Company Identification:
 Chevron Phillips Chemical Company LP
 10001 Six Pines Drive
 The Woodlands, TX 77380

Product Information:
 MSDS Requests: (800) 852-5530
 Technical Information: (800) 852-5531

24-Hour Emergency Telephone Numbers

HEALTH /CT Emergency Information Center (800) 231-0623 or (510) 231-0625
 TRANSPORTATION : North America: CHEMTREC (800) 424-9300 or (703) 527-3887
 ASIA: (800) ALERTSGS or (800) 25378747 or +65+6542+9595
 EUROPE: BIG +32+14+584545 (phone) or +32+14+583516 (telefax)
 SOUTH AMERICA SOS-Cotec Inside Brazil: 0800+111+767
 Outside Brazil: 55+19+3487+1800

MEDICAL APPLICATION CAUTION: Do not use this Chevron Phillips Chemical Company LP material in medical applications involving permanent implantation in the human body or permanent contact with internal body fluids or tissues.

Do not use this Chevron Phillips Chemical Company LP material in medical applications involving brief or temporary implantation in the human body or contact with internal body fluids or tissues unless the material has been provided directly from Chevron Phillips Chemical Company LP under an agreement which expressly acknowledges the contemplated use.

Chevron Phillips Chemical Company LP makes no representation, promise, express warranty or implied warranty concerning the suitability of this material for use in implantation in the human body or in contact with internal body fluids or tissues.

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	AMOUNT	EINECS	SYM	R-PHRASES
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PROPYLENE ETHYLENE COPOLYMER	9003-07-0	50 - 99 % weight	NA	NA	NA
POLYPROPYLENE	9003-07-0	50 - 99 % weight	NA	NA	NA
POLYETHYLENE	9002-88-4	< 49 % weight	EXEMPT	NA	NA
POLYETHYLENE HEXENE COPOLYMER	25213-02-9	< 49 % weight	NA	NA	NA
ETHYLENE-OCTENE-1COPOLYMER	26221-73-8	< 49 % weight	NA	NA	NA
POLYETHYLENE BUTENE COPOLYMER	25087-34-7	< 49 % weight	NA	NA	NA
RELATED MATERIALS	VARIOUS	< 4 % weight	NA	NA	NA

Occupational Exposure Limits:

Component	Limit	TWA	STEL / Peak	Ceiling	Notation
PROPYLENE ETHYLENE COPOLYMER	CPCHEM	Not Established	NA	NA	NA
POLYPROPYLENE	CPCHEM	Not Established	NA	NA	NA
POLYETHYLENE	CPCHEM	Not Established	NA	NA	NA
POLYETHYLENE HEXENE COPOLYMER	CPCHEM	Not Established	NA	NA	NA
ETHYLENE-OCTENE-1COPOLYMER	CPCHEM	Not Established	NA	NA	NA
POLYETHYLENE BUTENE COPOLYMER	CPCHEM	Not Established	NA	NA	NA

Control as Particulate Not Otherwise Classified (PNOC). The ACGIH Guideline* for respirable dust is 3.0 mg/m³ and 10.0 mg/m³ for total dust. The OSHA PEL for respirable dust is 5.0 mg/m³ and 15.0 mg/m³ for total dust.

* This value is for inhalable (total) particulate matter containing no asbestos and < 1.0% crystalline silica.

SECTION 3 HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

Opaque, translucent waxy pellets or fluff, mild odor.

- FORMALDEHYDE MAY BE PRODUCED AT ELEVATED TEMPERATURE.
- DUST MAY PRODUCE MECHANICAL IRRITATION TO THE MUCOUS MEMBRANES OF THE EYES, NOSE, THROAT AND UPPER RESPIRATORY TRACT

IMMEDIATE HEALTH EFFECTS:

Eye: Contact with the eyes may cause irritation due to the abrasive action of the dust. Not expected to cause prolonged or significant eye irritation. Material is dusty and may scratch the surface of the eye.

Skin: Not expected to be harmful to internal organs if absorbed through the skin. Contact with the skin is not expected to cause prolonged or significant irritation.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. The dust from this material may cause respiratory irritation.

SECTION 4 FIRST AID MEASURES

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Eye: Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get medical attention if irritation persists.

Skin: If the hot material gets on skin, quickly cool in water. See a doctor for extensive burns. Remove contaminated clothing and shoes. Wash skin with soap and water. Wash or clean contaminated clothing and shoes before reuse.

Ingestion: If swallowed, do not induce vomiting. Give the person a glass of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.

SECTION 5 FIRE FIGHTING MEASURES

Explosive dust clouds may be produced.

FIRE CLASSIFICATION:

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 1 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:

Flashpoint: 343°C (649.4°F)

Autoignition: NDA

Flammability (Explosive) Limits (% by volume in air): Lower: NA Upper: NA

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. If possible, water should be applied as a spray from a fogging nozzle since this is a surface burning material. The application of high velocity water will spread the burning surface layer.

Combustion Products: Incomplete combustion can also produce formaldehyde. Normal combustion forms carbon dioxide, water vapor and may produce carbon monoxide, original monomer, other hydrocarbons and hydrocarbon oxidation products, depending on temperature and air availability. Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Avoid creating dust clouds. Shovel, sweep up or use industrial vacuum cleaner to pick up. Place in container for proper disposal. Reduce airborne dust and prevent scattering by moistening with water.

Reporting: U.S.A. regulations require reporting spills of this material that could reach any surface waters. Report spills to local authorities and/or the U.S. Coast Guard National Response Center

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at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL. REFER TO PRODUCT LABEL OR MANUFACTURERS TECHNICAL BULLETINS FOR THE PROPER USE AND HANDLING OF THIS MATERIAL.

Precautionary Measures: Use caution to avoid creation of dusts and to prevent inhalation of product dust (fines). Avoid contact with product dust. Airborne dust concentrations above 20 mg/l may create a dust explosion hazard. Keep out of water sources and sewers. Spilled pellets may create a slipping hazard. Avoid breathing vapors or fumes which may be released during thermal processing. Do not breathe dust at levels above the recommended exposure limits. Avoid breathing material. Keep container closed. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Discard contaminated clothing and shoes or thoroughly clean before reuse. Do not breathe dust. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Unusual Handling Hazards: At extrusion temperatures (>350F, >177C), polyethylenes can release vapors and gases, which are irritating to the mucous membranes of the eyes, mouth, throat, and lungs. These substances may include acetaldehyde, acetone, acetic acid, formic acid, formaldehyde and acrolein. Based on animal data and limited epidemiological evidence, NTP, IARC (2A), and OSHA have listed formaldehyde as a probable human carcinogen. Following all recommendations within this MSDS should minimize exposure to thermal processing emissions.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations, which have the potential of generating an accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids, National Fire Protection Association (NFPA 77), 'Recommended Practice on Static Electricity' (liquids, powders and dusts), and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents' (liquids).

General Storage Information: Treat as a solid that can burn. Store away from oxidizing materials, in a cool, dry place with adequate ventilation. Bond and ground transfer equipment. DO NOT USE OR STORE near heat, sparks or open flames. USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly. Containers, even those that have been emptied, can contain residues of dusts or solid particulates which may create both health and fire/explosion hazards.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job

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activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

If handling results in dust generation, special ventilation may be needed to ensure that dust exposure does not exceed the OSHA PEL for nuisance dust. Use in a well-ventilated area. If heated material generates vapor or fumes, use process enclosures, local exhaust ventilation, or other engineering controls to control exposure.

PERSONAL PROTECTIVE EQUIPMENT:

Eye/Face Protection: No special eye protection is normally required. If operating conditions create dust that is not adequately controlled, wear chemical goggles.

Skin Protection: No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Respiratory Protection: No respiratory protection is normally required. If heated material generates vapor or fumes that are not adequately controlled by ventilation, wear a NIOSH approved respirator. Use the following elements for air-purifying respirators: Organic Vapor and Formaldehyde.

Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Limit	TWA	STEL / Peak	Ceiling	Notation
PROPYLENE ETHYLENE COPOLYMER	CPCHEM	Not Established	NA	NA	NA
POLYPROPYLENE	CPCHEM	Not Established	NA	NA	NA
POLYETHYLENE	CPCHEM	Not Established	NA	NA	NA
POLYETHYLENE HEXENE COPOLYMER	CPCHEM	Not Established	NA	NA	NA
ETHYLENE-OCTENE COPOLYMER	CPCHEM	Not Established	NA	NA	NA
POLYETHYLENE BUTENE COPOLYMER	CPCHEM	Not Established	NA	NA	NA

Control as Particulate Not Otherwise Classified (PNOC). The ACGIH Guideline* for respirable dust is 3.0 mg/m³ and 10.0 mg/m³ for total dust. The OSHA PEL for respirable dust is 5.0 mg/m³ and 15.0 mg/m³ for total dust.

* This value is for inhalable (total) particulate matter containing no asbestos and < 1.0% crystalline silica.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Opaque, translucent waxy pellets or fluff, mild odor.

pH: NA

VAPOR PRESSURE: NA

VAPOR DENSITY (AIR=1): NA

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BOILING POINT: NA
SOLUBILITY (in water) : Negligible
SPECIFIC GRAVITY: 0.88 g/cm³ - 0.92 g/cm³

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to Avoid: Not Applicable

Incompatibility With Other Materials: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous Decomposition Products: Low molecular weight hydrocarbons, alcohols, aldehydes, acids and ketones can be formed during thermal processing.

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS:

Acute Oral Toxicity: The oral LD₅₀ is not known.

Acute Dermal Toxicity: The dermal LD₅₀ is not known.

Acute Inhalation Toxicity: The inhalation LC₅₀ is not known.

Eye Irritation: This material is not expected to be irritating to the eyes.

Skin Irritation: This material is not expected to be irritating to the skin.

ADDITIONAL TOXICOLOGY INFORMATION:

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

This product contains POLYMERIZED ETHYLENE.

At extrusion temperatures (>350F, >177C), polyethylenes can release vapors and gases, which are irritating to the mucous membranes of the eyes, mouth, throat, and lungs. These substances may include acetaldehyde, acetone, acetic acid, formic acid, formaldehyde and acrolein.

Generally these irritant effects are all transitory. However, prolonged exposure to irritating off gases can lead to pulmonary edema. Adequate ventilation should prevent sensory discomfort. Based on animal data and limited epidemiological evidence, NTP, IARC (2A), and OSHA have listed formaldehyde as a probable human carcinogen. Following all recommendations within this MSDS should minimize exposure to thermal processing emissions.

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

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY:

Fish or birds may eat pellets which may obstruct their digestive tracts.

ENVIRONMENTAL FATE:

This material is not expected to be readily biodegradable.

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SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

Shipping Descriptions per regulatory authority.

US DOT

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION

ICAO / IATA

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION

IMO / IMDG

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION

RID / ADR

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION

SECTION 15 REGULATORY INFORMATION

SARA 311/312 CATEGORIES:	1. Immediate (Acute) Health Effects:	YES
	2. Delayed (Chronic) Health Effects:	NO
	3. Fire Hazard:	NO
	4. Sudden Release of Pressure Hazard:	NO
	5. Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

04A = IARC Group 1	12 = TSCA Section 8(a) PAIR	21 = TSCA Section 5(a)
04B = IARC Group 2A	13 = TSCA Section 8(d)	25 = CAA Section 112 HAPs
04C = IARC Group 2B	15 = SARA Section 313	26 = CWA Section 311
05 = NTP Carcinogen	16 = CA Proposition 65	28 = CWA Section 307
06 = OSHA Carcinogen	17 = MA RTK	30 = RCRA Waste P-List
08 = TSCA 12(b)	18 = NJ RTK	31 = RCRA Waste U-List
10 = TSCA Section 4	19 = DOT Marine Pollutant	32 = RCRA Appendix VIII
11 = TSCA Section 8(a) CAIR	20 = PA RTK	33 = MN Hazardous Substance

No components of this material were found on the regulatory lists above.

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WHMIS CLASSIFICATION:

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

CHEMICAL INVENTORY LISTINGS:

AUSTRALIA: This material contains components that require notification before sale or importation into Australia.

CANADA: This material contains components that are neither on the Domestic Substance List (DSL) nor on the Non-domestic Substances List (NDSL).

PEOPLE'S REPUBLIC OF CHINA: All the components of this product are listed on the draft Inventory of Existing Chemical Substances in China.

JAPAN: This material contains components that require notification before sale or importation into Japan.

KOREA: All the components of this product are on the Existing Chemicals List (ECL) in Korea.

PHILIPPINES: This material contains components that require notification before sale or importation into the Philippines.

UNITED STATES: All of the components of this material are on the Toxic Substances Control Act (TSCA) Chemical Inventory.

EU RISK AND SAFETY PHRASES:

S22: Do not breathe dust.

EU Symbols: NA

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 1 Flammability: 1 Reactivity: 0 Special: NA

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE - Personal Protection Equipment Index recommendation, * - Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA).

REVISION STATEMENT: This revision affects all sections please review.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV	Threshold Limit Value	TWA	- Time Weighted Average
STEL	Short-term Exposure Limit	PEL	- Permissible Exposure Limit
ACGIH	American Conference of - Government Industrial Hygienists	OSHA	- Occupational Safety & Health
NIOSH	National Institute of Safety & Health	NFPA	- National Fire Protection Agency
WHMIS	Workplace Hazardous Materials - Information System	IRAC	- Intl. Agency for Research on Cancer
EINECS	European Inventory of existing - Commercial Chemical Sales	RCRA	- Resource Conservation Recovery Act

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SARA	- Superfund Amendments and Reauthorization Act.	TSCA	- Toxic Substance Control Act
EC50	- Effective Dose	LC50	- Lethal Concentration
LD50	- Lethal Dose	CAS	- Chemical Abstract Service Number
NDA	- No Data Available	NA	- Not Applicable
<=	- Less Than or Equal To	>=	- Greater Than or Equal To
CNS	- Central Nervous System	MAK	- Germany Maximum Concentration Values

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by EHS Product Stewardship Group, Chevron Phillips Chemical Company LP, 10001 Six Pines Drive, The Woodlands, TX 77380

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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