

1. Product and Company Identification

Material name	POLYPROPYLENE HOMOPOLYMER	
MSDS number	30020	
Version #	08	
Revision date	10-07-2010	
CAS #	Mixture	
Product code(s)	H0500HN; P4C4T-189; P4C5B-030; P4C5B-075; P4C5B-076; P4C5B-121; P4C5B-181B; P4C5K-123A; P4C5N-046; P4C5N-046A; P4C5T-013; P4C5T-027B; P4C5T-195X; P4C5Z-027; P4C6B-024B; P4C6B-024D; P4C6B-134; P4C6B-134A; P4C6B-134J; P4C6B-194; P4C6B-196X; P4C6S-193; P4C6S-193AX; P4C6T-063; P4C6Z-022; P4C6Z-059; P4G2K-152; P4G2K-152A; P4G2T-077D; P4G2Z-026; P4G2Z-159; P4G2Z-198X; P4G3A-052; P4G3B-146; P4G3N-147X; P4G3N-206X; P4G3T-150X; P4G3Z-039; P4G3Z-039A; P4G3Z-050; P4G3Z-050F; P4G3Z-208X; P4G4A-053; P4G4B-036; P4G4B-125A; P4G4B-207X; P4G4K-038; P4G4K-205X; P4G4T-017; P4G4T-017A; P4G4T-017C; P4G4T-180; P4G4Z-011; P4G4Z-011A; P4G8Z-080	
Manufacturer / supplier	Flint Hills Resources, LP 118 Huntsman Way Longview, TX 75602, US	
Telephone numbers - 24 hour emergency assistance	CHEMTREC (US)	800-424-9300
	CHEMTREC	703-527-3887
	CARECHEM24 (Europe)	44 208 762 8322 (UK)
	CARECHEM24 (No. & So. America)	44 208 762 8322 (UK)
	Flint Hills Resources, LP (after business hours)	432-296-1674
Telephone numbers - general assistance	7-4 (M-F, CST)	432-640-8520
	8-5 (M-F, CST) MSDS Assistance	316-828-7988
	Email: msdsrequest@fhr.com	

2. Hazards Identification

Emergency overview	CAUTION!
	COLORLESS, MILD TO ODORLESS, SOLID
	HEALTH HAZARDS DUST MAY CAUSE SKIN, EYE AND RESPIRATORY TRACT IRRITATION SEE "TOXICOLOGICAL INFORMATION" (SECTION 11) FOR MORE INFORMATION
	FLAMMABILITY HAZARDS DUST MAY FORM EXPLOSIVE MIXTURE IN AIR WHEN DISPERSED IN A CONFINED SPACE
	REACTIVITY HAZARDS STABLE
For additional safety information, consult the current editions of the National Fire Protection Association (NFPA) 654 Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, NFPA 499, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas, NFPA 77, Recommended Practice on Static Electricity, and NFPA 68, Standard on Explosion Protection by Deflagration Venting.	
Potential health effects	
Routes of exposure	Inhalation, ingestion, skin and eye contact.
Eyes	Dusts may cause mechanical irritation including pain, lacrimation and redness. Effects may become more serious with repeated or prolonged contact.
Skin	Dusts may cause irritation due to abrasion. Repeated or prolonged skin contact may cause reddening, itching and inflammation.

Inhalation	Dusts may cause irritation to the nose, throat and lungs by mechanical abrasion. Fumes or vapors from the heated material may be irritating to the respiratory tract. Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information" (Section 11).
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

3. Composition / Information on Ingredients

Components	CAS #	Concentration*
POLYPROPYLENE	9003-07-0	98 - 100 %
MODIFIERS - ADDITIVES	Mixture	0.0001 - 2 %

*Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

Composition comments	This Material Safety Data Sheet is intended to communicate potential health hazards and potential physical hazards associated with the product(s) covered by this sheet, and is not intended to communicate product specification information. For product specification information, contact your Flint Hills Resources, LP representative.
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4. First Aid Measures

First aid procedures	
Eye contact	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
Skin contact	Immediately wash skin with plenty of soap and water after removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation	Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR).
Ingestion	Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.
Notes to physician	Treat symptomatically.

5. Fire Fighting Measures

Flammable properties	This material, in its finely divided form, presents an explosion hazard when dispersed in a confined area and ignited in air. This material may accumulate static charge which can cause an electrical spark (ignition source) in some cases. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. This material, as produced and not in its finely divided form as dust, is not explosive as defined by established regulatory criteria. Hazardous melting and dripping may occur at elevated temperatures. May burn at or above flash point, and airborne dust may explode if ignited.
Extinguishing media	
Suitable extinguishing media	Use water spray, dry chemical, carbon dioxide or fire-fighting foam for Class B fires to extinguish fire.

**Fire fighting
equipment/instructions**

Material will burn in a fire.

Evacuate area and fight fire from a safe distance.

Use water spray to cool adjacent structures and to protect personnel. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Firefighters must wear NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

**Hazardous combustion
products**

A variety of decomposition products may occur including simple hydrocarbons to toxic and irritating gases such as carbon, carbon monoxide, carbon dioxide, acids, ketones, and aldehydes.

6. Accidental Release Measures

Environmental precautions

Avoid excessive generation of dust. If dust is generated, appropriate respiratory, eye and skin protection should be used to protect personnel during clean-up.

If material is released to the environment, take immediate steps to stop and contain release. Prevent or minimize formation of a dust cloud or layer. Eliminate all sources of ignition. Isolate hazard area and deny entry. Caution should be exercised regarding personnel safety and exposure to the released material. Notify local, provincial and/or federal authorities, if required.

Other information

Eliminate all sources of ignition (no smoking, flares, sparks or flames in immediate area). Prevent or minimize formation of a dust cloud or layer during cleanup. This material, in its finely divided form, presents an explosion hazard when dispersed in a confined area and ignited in air.

Small spills can be cleaned up using non-sparking tools. Avoid procedures that may result in formation of a dust cloud or in water pollution. Place in an appropriate container for disposal or recycle.

For large spills and releases follow the handling and storage recommendations as detailed in NFPA 654, NFPA 499 and NFPA 77. Grounding, bonding, and intrinsic safety of equipment used should be considered.

See Exposure Controls/Personal Protection (Section 8).

Emergency action

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. (See Exposure Controls/Personal Protection in Section 8.)

7. Handling and Storage

Handling

Avoid inhaling dust and contact with skin and eyes.

Minimize dust generation during handling and contact.

This material, in its finely divided form, presents an explosion hazard when dispersed in a confined area and ignited in air.

This material may accumulate electrostatic charge which may cause an electrical spark (ignition source) in some cases.

Ground and bond lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. When airborne dust or a dust cloud is present, do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards.

Facilities using this material should assess their potential for combustible dust and static spark hazards and follow applicable federal, state and local laws and regulations and accepted codes and standards.

Avoid accumulation of dust on surfaces and hidden areas where dust may collect in the interior of buildings. Clean up dust using approved methods that do not generate dust clouds if ignition sources are present.

Do not eat, drink or smoke in areas of use or storage.

For additional safety information, consult the current editions of the National Fire Protection Association (NFPA) 654 Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, NFPA 499, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas, NFPA 77, Recommended Practice on Static Electricity, and NFPA 68, Standard on Explosion Protection by Deflagration Venting.

Storage

Store in tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles.

Avoid contact with strong oxidizers.

Empty containers may contain material residue. Do not reuse without adequate precautions.

Do not eat, drink or smoke in areas of use or storage.

For additional safety information, consult the current editions of the National Fire Protection Association (NFPA) 654 Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, NFPA 499, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas, NFPA 77, Recommended Practice on Static Electricity, and NFPA 68, Standard on Explosion Protection by Deflagration Venting.

8. Exposure Controls / Personal Protection**Occupational exposure limits****ACGIH****Material****Type****Value****Form**

POLYPROPYLENE HOMOPOLYMER (Mixture)

TWA

5.0 mg/m3

PNOS (Particles not otherwise specified) -
RESPIRABLE
PARTICULATE (8-Hr)
PNOC (Particles not otherwise classified) -
INHALABLE
PARTICULATE (8-Hr)

10.0 mg/m3

U.S. - OSHA**Material****Type****Value****Form**

POLYPROPYLENE HOMOPOLYMER (Mixture)

TWA

15.0 mg/m3

PNOR (Particles not otherwise regulated) -
TOTAL DUST (8-Hr)
PNOR (Particles not otherwise regulated) -
RESPIRABLE FRACTION
(8-Hr)

5.0 mg/m3

Exposure guidelines

This material does not have established exposure limits.

Engineering controls

Ventilation and other forms of engineering controls are the preferred means for controlling exposures.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment.

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment**Eye / face protection**

Keep away from eyes. Eye contact can be avoided by using indirect-vent goggles and/or face shield. Have eye washing facilities readily available where eye contact can occur.

Skin protection

Avoid skin contact with this material. Use appropriate chemical protective gloves, such as Viton®, when handling. Additional protective clothing may be necessary.

Good personal hygiene practices such as properly handling contaminated clothing, using wash facilities before entering public areas and restricting eating, drinking and smoking to designated areas are essential for preventing personal chemical contamination.

Respiratory protection

A NIOSH approved dust respirator may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

9. Physical & Chemical Properties

Color	Colorless
Odor	Mild to odorless
Odor threshold	Not available
Physical state	Solid
Form	Pellet
pH	Not available
Melting point	290 - 330 °F (143.3 - 165.6 °C)
Freezing point	Not available
Boiling point	Not applicable - Solid
Flash point	> 650 °F (> 343.3 °C) (PMCC)
Evaporation rate	Not available
Flammability limits in air, upper, % by volume	Not available
Flammability limits in air, lower, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	Not available
Relative density	Not available
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
VOC	Not available
Pour point	Not available
Viscosity	Not available
Density	0.89 - 0.91 g/ml @25 °C
Surface tension	Not available
Percent volatile	Zero (estimated)
Molecular weight	Not available
Molecular formula	Not applicable
Chemical family	Polypropylene Homopolymer
Minimum Ignition Energy	25 - 400 mJ (NFPA 68)
Minimum Ignition Temp. - Dust Cloud	788 °F (420 °C) (no antioxidant; NFPA 499)
Minimum Explosible Concentration	30 g/m3 (with median mass particle size of 25 µm - NFPA 68)
Kst, Deflagration Index	101 bar-m/s (NFPA 68)
Dust Hazard Class	1 (NFPA 68)

10. Chemical Stability & Reactivity Information

Chemical stability	Stable
Incompatible materials	Avoid contact with strong oxidizers. See precautions under Handling & Storage (Section 7).
Hazardous decomposition products	Combustion may produce hazardous combustion products and other decomposition products in the case of incomplete combustion.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

POLYPROPYLENE (CAS 9003-07-0)

3 Not classifiable as to carcinogenicity to humans.

Toxicological data

POLYPROPYLENE BASED POLYMERS: Dust may be irritating to the respiratory system. Prolonged and repeated inhalation of dust may cause impaired lung function and lung changes. Vapors and fumes from thermal processing may be irritating to the eyes and respiratory system.

Exposure to this material may cause adverse effects or damage to the following organs or organ systems: skin, eyes, and respiratory tract.

12. Ecological Information

Ecotoxicity

Not classified as harmful to aquatic organisms.

Persistence and degradability

Not readily biodegradable.

Bioaccumulation / Accumulation

Not classified in terms of bioaccumulation in aquatic organisms.

Mobility in environmental media

Not classified in terms of mobility in air, soil and water.

13. Disposal Considerations

Disposal instructions

This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

In Canada, wastes should be disposed of according to federal, state, provincial and local regulations.

For additional handling information and protection of employees, see Section 7 (Handling and Storage) and Section 8 (Exposure Controls/Personal Protection).

14. Transport Information

General

BILL OF LADING - BULK (U. S. DOT): Non-regulated by DOT
BILL OF LADING - NON-BULK (U. S. DOT): Non-regulated by DOT
BILL OF LADING (CTDG): Non-regulated

See Bill of Lading for proper shipping description.

15. Regulatory Information

US federal regulations

All ingredients are on the TSCA inventory, or are not required to be listed on the TSCA inventory.

This material does not contain toxic chemicals (in excess of the applicable de minimis concentration) that are subject to the annual toxic chemical release reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372).

Check local, regional or state/provincial regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Failure to report may result in substantial civil and criminal penalties.

This material is intended for use in the manufacture of articles and goods as appropriate. It is the responsibility of the manufacturer to determine that it is safe, lawful and technically suitable for the intended use. This material is not intended for use in the manufacture of any form of implanted medical or surgical device.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

State regulations	Based on available information this product does not contain any components or chemicals currently known to the State of California to cause cancer, birth defects or reproductive harm at levels which would be subject to Proposition 65. Reformulation, use or processing of this material may affect its composition and require re-evaluation.
Canadian regulations	All ingredients are on the Canadian Domestic Substance List (DSL), or are not required to be listed on the DSL. Not controlled under WHMIS (Canada).
16. Other Information	
NFPA ratings	Health: 0 Flammability: 1 Instability: 0
HMIS® ratings	Health: 0 Flammability: 1 Physical hazard: 0 Personal protection:
Disclaimer	NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. Adequate training and instruction should be given by you to your employees and affected personnel. Appropriate warnings and safe handling procedures should be provided by you to handlers and users. Additionally, the user should review this information, satisfy itself as to its suitability and completeness, and pass on the information to its employees or customers in accordance with the applicable federal, state, provincial or local hazard communication requirements. This MSDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, vendor neither assumes nor retains any responsibility for any damage or injury resulting from abnormal use, from any failure to adhere to appropriate practices, or from any hazards inherent in the nature of the material. Moreover, unless an employee or a customer accesses or receives a MSDS directly from the company, there is no assurance that a document obtained from alternate sources is the most currently available MSDS.
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This data sheet contains changes from the previous version in section(s):	Product and Company Identification: Product Codes Composition / Information on Ingredients: Ingredients Physical & Chemical Properties Regulatory Information
Completed by	Flint Hills Resources, LP - Operations EH&S