

1. Chemical product and company identification

Product name	POLYETHYLENE (HDPE) ETHENE-HEXENE-1 COPOLYMER (CHINA RESTRICTED)
MSDS #	0000002033
Historic MSDS #:	None.
Code	0000002033 (NAP)
Product use	Consumer products. Industrial applications.
Supplier	Innovene USA LLC 200 E. Randolph Drive Chicago, IL 60606
Emergency phone:	1 (800) 424-9300 Outside the US: +1 703-527-3887 (CHEMTREC)
OTHER PRODUCT INFORMATION	1 (888) 260-6737 Toll free - North America email:MSDS@innovene.com

2. Composition/information on ingredients

Ingredient name	CAS #	% by weight
1-hexene, polymer with ethene	25213-02-9	>98

3. Hazards identification

Physical state	Granular solid. Pellets. Powder or flakes solid.
Color	White, translucent or colorless.
Emergency overview	This product has been evaluated and does not require any hazard warning on the label under established regulatory criteria. Handling and/or processing of this material may generate dust which may cause mechanical irritation of the eyes, skin, nose and throat.
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Potential health effects	
Eyes	No significant irritation expected other than possible mechanical irritation. Heated material can cause thermal burns. When heated to decomposition it emits acrid smoke and irritating fumes.
Skin	No significant irritation expected other than possible mechanical irritation. Heated material can cause thermal burns.
Inhalation	Dust: Exposure to airborne concentrations well above the recommended exposure limits may cause irritation of the nose, throat, and lungs. Vapor: If heated to more than 300°C, the product may form vapors or fumes which could cause irritation of the respiratory tract, coughing, and shortness of breath.
Ingestion	No significant health hazards identified.
Medical conditions aggravated by over-exposure	None identified.
See toxicological information (section 11)	

4. First aid measures

Eye contact	Hot material: Flush eyes with plenty of water for at least 15 minutes. Seek medical assistance for mechanical removal of this material from the eye. The use of flush fluid, other than water, is not recommended. Cold material: flush eyes with plenty of water. Get medical attention if irritation occurs.
Skin contact	If burned by contact with hot material, flush skin immediately with large amounts of cold water. If possible, submerge area in cold water. No attempt should be made to detach polymer adhering to the skin or to remove clothing attached with molten material. Thermal burns require immediate medical attention. Cold material: Wash with soap and water.
Inhalation	If affected by fumes from heated material, remove from source of exposure and move the affected person into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

5. Fire-fighting measures

Flammability of the product	May be combustible at high temperature.
Auto-ignition temperature	>343 °C
Flash point	Above 300°C decomposition occurs and flash of fumes may occur.
Products of combustion	These products are carbon oxides (CO, CO ₂). May also contain low levels of aldehydes, ketones, organic acids or hydrocarbons.
Unusual fire/explosion hazards	High dust concentrations have a potential for combustion or explosion. This material is not explosive as defined by established regulatory criteria.
Fire-fighting media and instructions	In case of fire, use water spray (fog), foam or dry chemicals. Do not use water jet.
Protective clothing (fire)	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal precautions	IN CASE OF A LARGE SPILL: Contact emergency personnel. Eliminate all ignition sources. Granules spilled on the floor can cause slipping. Fine dust clouds may form explosive mixtures with air. Do not touch or walk through spilled material. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").
Environmental precautions and clean-up methods	If emergency personnel are unavailable vacuum or carefully scoop up spilled materials and place in an appropriate container for disposal. Avoid creating dusty conditions and prevent wind dispersal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways. See Section 13 for Waste Disposal Information.
Personal protection in case of a large spill	Chemical/Dust Goggles. Personnel should wear protective clothing.

7. Handling and storage

Handling	There is a risk of being splashed with molten materials. Thermal burns are the most common injury caused while processing molten material. Do not inhale fumes or vapor from molten product. Use with adequate ventilation. When handling hot material, wear heat resistant protective gloves, clothing and face shield that are able to withstand the temperature of the heated product. Pneumatic conveying of powder and pellets can generate large static electrical charges. Electrical discharge in presence of air can cause an explosion. Earth all equipment. High dust concentrations have a potential for combustion or explosion. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.
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Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep away from heat and direct sunlight.

The main hazards are related to pallet stock slippage and forklift truck maneuvers, which can cause injury to personnel. It is highly recommended that adequate procedures covering storage handling of pallets are established and maintained. These procedures must be kept up to date and regularly audited. In most cases, best practice is to stack pallets no more than 2 high. However, facilities responsible for storing the material should perform a site specific risk assessment to determine whether pallets can be stacked safely.

8. Exposure controls/personal protection**Occupational exposure limits****Ingredient name**

1-hexene, polymer with ethene

Occupational exposure limits**ACGIH TLV (United States, 2005).**

TWA: 10 mg/m³ 8 hour(s). Form: Inhalable fraction PNOS

TWA: 3 mg/m³ 8 hour(s). Form: Respirable fraction PNOS

Control Measures

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Hygiene measures

Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Personal protection**Eyes**

Safety glasses with side shields. Use dust goggles if high dust concentration is generated.

Skin and body

Hot material: Wear heat-resistant protective gloves, clothing and face shield that are able to withstand the temperature of the molten product.

Respiratory

Cold material: None required; however, use of protective clothing is good industrial practice.

Product processing, heat sealing of film, or operations involving the use of wires or blades heated above 300°C may produce dust, vapor or fumes. To minimize risk of overexposure to dust, vapor or fumes it is recommended that a local exhaust system is placed above the equipment, and that the working area is properly ventilated.

If ventilation is inadequate, use certified respirator that will protect against dust/mist.

Hands

Hot material: Wear heat-resistant protective gloves that are able to withstand the temperature of molten product.

Cold material: None required; however, use of gloves is good industrial practice.

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or S.O.P. for special handling directions

Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties**Physical state**

Granular solid. Pellets. Powder or flakes solid.

Odor

Odorless.

Color

White, translucent or colorless.

Melting point / Range

110 to 135 °C

Specific gravity

0.93 to 0.97

Density

Pellet density: 930-970 kg/m³ (0.930 to 0.970 g/cm³)

Solubility

Insoluble

10. Stability and reactivity

Stability and reactivity	The product is stable.
Conditions to avoid	Stable under recommended storage and handling conditions (See Section: "Handling and storage"). If heated to more than 300°C, the product may form vapors or fumes which could cause irritation of the respiratory tract, coughing, and shortness of breath. Avoid dusting when handling and avoid all possible sources of ignition (spark or flame). To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.
Incompatibility with various substances	None identified.
Hazardous decomposition products	These products are carbon oxides (CO, CO ₂). May also contain low levels of aldehydes, ketones, organic acids or hydrocarbons.
Hazardous polymerization	Will not occur.

11. Toxicological information

Chronic toxicity

Carcinogenic effects	No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).
Mutagenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.
Reproductive effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.
Teratogenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

12. Ecological information

Ecotoxicity	No testing has been performed by the manufacturer.
Persistence/degradability	Not inherently biodegradable (polymer).
Mobility	This product is lighter than water and will float on the surface. This product is not likely to move rapidly with surface or groundwater flows because of its low water solubility.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other ecological information	Wildlife may ingest plastic pellets or bags. Although not toxic, such materials may physically block the digestive system, causing starvation or death.

13. Disposal considerations

Waste information	Recycle to process, if possible. Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.
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Consult your local or regional authorities.

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

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	Build 4.2.6	Language ENGLISH. (ENGLISH)

15. Regulatory information

U.S. Federal regulations

US INVENTORY (TSCA): In compliance.

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

This product does not contain any hazardous ingredients at or above regulated thresholds.

SARA 313

Form R - Reporting requirements

This product does not contain any hazardous ingredients at or above regulated thresholds.

Supplier notification

This product does not contain any hazardous ingredients at or above regulated thresholds.

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: This material is not regulated under CERCLA Sections 103 and 107.

State regulations

No products were found.

California Prop 65: No products were found

Inventories

AUSTRALIAN INVENTORY (AICS): In compliance.

CANADA INVENTORY (DSL): In compliance.

CHINA INVENTORY (IECS): Not determined.

EC INVENTORY (EINECS): In compliance. (Polymer, exempt from listing.)

JAPAN INVENTORY (ENCS): In compliance.

KOREA INVENTORY (ECL): In compliance.

PHILIPPINE INVENTORY (PICCS): In compliance.

16. Other information

Label requirements

This product has been evaluated and does not require any hazard warning on the label under established regulatory criteria.

HMIS® Rating :

Health 0
Flammability 1
Physical Hazard 0
Personal protection X

National Fire Protection Association (U.S.A.)



History

Date of issue

08/11/2005.

Date of previous issue

No Previous Validation.

Prepared by

Product Stewardship

Notice to reader

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.