INEOS
Olefins & Polymers USA

Material Safety Data Sheet

POLYETHYLENE ETHENE-HEXENE-1 COPOLYMER or
POLYETHYLENE ETHENE-BUTENE-1 COPOLYMER

1 . Product and company identification

Product name POLYETHYLENE ETHENE-HEXENE-1 COPOLYMER or POLYETHYLENE ETHENE-BUTENE-1 COPOLYMER

Supplier INEOS USA LLC
2600 South Shore Blvd.
League City, Texas 77573

Trade name Covers the following grades: A4040, B2020LG, B4020N series, B50 series, B53 series, B54-25H-127, CP52-35, CP53-30, F818A, G36 series, G38 series, G50 series, H48-500-199, HB111R, HB112R, HD4820, HP50 series, HP53-25-155, HP54-60, HP55 series, HP58-25-153, J50 series, K38 series, K44 series, K46 series, K50-10-136, K54-05, SP series, T50-400 series, T50 series, T60 series, T1999, TC46-25, TUB121N, and TUB172 and
Experimental formulation. (designated by "x" in grade name)

Material uses Consumer products. Industrial applications.

MSDS # 0000002026 (NAP)

Emergency telephone number 1 (800) 424-9300
Outside the US: +1 703-527-3887 (CHEMTREC)

2 . Hazards identification

Physical state Granular solid. Pellets. Powder or flakes.

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 a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.

Routes of entry Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

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.

Skin No significant irritation expected other than possible mechanical irritation.Heated material can cause thermal burns.

Eyes No significant irritation expected other than possible mechanical irritation.Heated material can cause thermal burns.Emits acrid smoke and fumes when heated to decomposition.

3 . Composition/information on ingredients

Name	CAS number	%
Ethylene-Hexene-1 Copolymer (Pure)	25213-02-9	90 - 100
or		
Polyethylene-Butene Copolymer (Pure)	25087-34-7	90 - 100
Pigments, if present		0.04 - 0.06

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

Eye contact Flush eyes with plenty of water for 15 minutes, occasionally lifting upper and lower eyelids. 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 plenty of 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 Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

5 . Fire-fighting measures

Flammability of the product May be combustible at high temperature.

Extinguishing media

Suitable In case of fire, use water spray (fog), foam or dry chemical.

Not suitable Do not use water jet.

Special exposure hazards High dust concentrations have a potential for combustion or explosion.

Hazardous thermal decomposition products Decomposition products may include the following materials:carbon dioxide, carbon monoxide. May also contain low levels of aldehydes, ketones, organic acids or hydrocarbons.

Special protective equipment for fire-fighters Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6 . Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Avoid creating dusty conditions and prevent wind dispersal.

Methods for cleaning up

Small spill Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill Contact emergency personnel. To avoid fire, eliminate 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. Personnel should wear protective clothing. Chemical/Dust Goggles Note: see section 1 for emergency contact information and section 13 for waste disposal.

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 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.

7 . Handling and storage

Storage

Keep container 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

Ingredient	Exposure limits
POLYETHYLENE ETHENE-HEXENE-1 COPOLYMER or POLYETHYLENE ETHENE-BUTENE-1 COPOLYMER	**ACGIH TLV (United States).** TWA: 3 mg/m³ Form: Respirable fraction TWA: 10 mg/m³
Ethylene-Hexene-1 Copolymer (Pure)	**ACGIH TLV (United States).** TWA: 10 mg/m³ 8 hour(s). Form: Inhalable TWA: 3 mg/m³ 8 hour(s). Form: Respirable fraction
Polyethylene-Butene Copolymer (Pure)	**ACGIH TLV (United States).** TWA: 10 mg/m³ Form: Inhalable TWA: 3 mg/m³ Form: Respirable fraction

Engineering measures

Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Personal protection

Respiratory

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

Eyes

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

Skin

Hot material:Wear heat-resistant protective gloves that are able to withstand the temperature of molten product.
Cold material: None required; however, use of protective clothing is good industrial practice.

9 . Physical and chemical properties

Physical state Granular solid. Pellets. Powder or flakes.

Flash point Closed cup: >343°C (>649.4°F)

Auto-ignition temperature 390°C (734°F)

Color White, translucent or colorless, OR
Yellow.

Odor Odorless.

Melting/freezing point 110 to 135°C (230 to 275°F)

10 . Stability and reactivity

Chemical stability	The product is stable.
Hazardous polymerization	Will not occur.
Conditions to avoid	Stable under recommended storage and handling conditions (see section 7).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.To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.
Materials to avoid	No specific data.
Hazardous decomposition products	These products are carbon oxides (CO, CO_2)May also contain low levels of aldehydes, ketones, organic acids or hydrocarbons.
Incompatibility with various substances	None identified.

11 . Toxicological information

Carcinogenicity

No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or International Agency for Research on Cancer (IARC).

Mutagenicity

No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as a mutagen.

Teratogenicity

No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.

Fertility effects

No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as a reproductive toxin.

12 . Ecological information

Environmental effects

No testing has been performed by the manufacturer.

Other adverse effects

No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal

Recycle to process, if possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Comply with all local, regional, and nationa laws pertaining to waste management. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

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

15 . Regulatory information

HCS Classification

Not regulated.

U.S. Federal regulations

TSCA 8(a) IUR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

State regulations

Connecticut Carcinogen Reporting: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: None of the components are listed.
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: None of the components are listed.
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: None of the components are listed.
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: None of the components are listed.
Rhode Island Hazardous Substances: None of the components are listed.

United States inventory (TSCA 8b)

All components are listed or exempted.

WHMIS (Canada)

Not controlled under WHMIS (Canada).

CEPA Toxic substances: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

International regulations

International lists

Please go to RPS online at www.ineos-op.com

16 . Other information

Label requirements

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 a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Hazardous Material Information System (U.S.A.)



16 . Other information

Flammability	1
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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



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Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

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