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1 Identification of the Substance/Mixture and of the Company/Undertaking

· Product Identifier: Formolene® High Density Polyethylene-Butene Copolymer

· Synonyms: HDPE-B Copolymer

· Product Code: HF5001, HJ5620B, HJ5204B

• CAS Number: 25087-34-7

· Product Application: Resin, extrusion and compounding, plastic molding, molded articles, films and coatings.

· Manufacturer/Supplier:

Formosa Industries Corporation 201 Formosa Drive Point Comfort, TX 77978 USA +1 (361) 987-7000

E-Mail: MSDS@fpcusa.com

· Business Division: Formosa Industries Corporation

· Emergency Telephone Number:

In case of a chemical emergency, contact CHEMTREC (24 hrs) at:

+1 (800) 424-9300 (United States, Canada, Puerto Rico, Virgin Islands)

+1 (703) 527-3887 (International & Maritime)

2 Hazards Identification

· Classification of the Substance or Mixture:

Combustible Dust May form combustible dust concentrations in air.

· Hazards Not Otherwise Classified:

Molten material may cause thermal burns. Spilled pellets present slip and fall hazard.

· Hazard Pictograms: Not Applicable

Signal Word: WARNING

· Hazard Statements:

May form combustible dust concentrations in air.

· Precautionary Statements:

Product is a static accumulator.

P240 Ground and bond containers and receiving equipment.

P210 Keep away from sparks and open flame.

· NFPA Ratings (scale 0 - 4):



Health = 0 Fire = 1 Reactivity = 0

Additional Information:

If you do not understand the hazards or safety precautions described in this data sheet, contact your supervisor or safety administrator before handling this product.

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3 Composition/Information on Ingredients

- · Substances:
- · CAS No. Description

25087-34-7 ethylene-butene copolymer (>99%)

4 First Aid Measures

· General information: Provide symptomatic and supportive care.

· After Inhalation:

Remove victim to fresh air.

Administer oxygen if breathing is difficult.

Administer artifical respiration if breathing has stopped.

Get medical assistance if irritation or other symptoms develop.

· After Skin Contact:

After contact with the molten product, cool rapidly with cold water.

Do not pull solidified product away from the skin.

Get medical attention.

· After Eye Contact:

In case of accidental contact, immediately flush eyes with water.

Hold eyelids open to ensure adequate flushing.

Get medical assistance if irritation or other symptoms develop.

After Swallowing:

Administer 1-2 glasses of water to dilute ingested material.

Never give anything by mouth to an unconscious person.

Get medical attention.

· Most Important Symptoms and Effects: No further relevant information available.

5 Firefighting Measures

Suitable Extinguishing Agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray.

· Special Firefighting Hazards:

Product is supplied as pellets. Dust formed during processing or handling may form combustible dust concentrations in air.

· Protective Equipment:

In the event of a fire, wear a NIOSH (USA) or CEN (EU) approved self-contained breathing apparatus (SCBA) and full protective clothing.

6 Accidental Release Measures

· Personal Precautions, Protective Equipment and Emergency Procedures:

Avoid dust formation.

Wear appropriate personal protective equipment during all clean-up activities. See Section 8 for more information.

Avoid inhalation and direct contact.

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· Environmental Precautions: Keep spilled material out of sewage/drainage systems and waterways.

· Methods for Containment and Clean-Up:

Collect spilled material mechanically.

Place waste in an appropriate container for disposal.

· Reference to Other Sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protective equipment.

See Section 13 for disposal information.

7 Handling and Storage

· Precautions for Safe Handling:

Avoid dust formation.

Accumulations of dust should be removed from settling areas.

Follow good engineering and work practices, including routine housekeeping.

Promptly clean up spills to avoid slip and fall hazard.

Use only in well ventilated areas.

· Protection Against Fires and Explosions:

Dust can combine with air to form an explosive mixture.

Take precautions against static discharge.

Transfer and store in properly bonded and grounded containers.

To determine required precautions, consult applicable standards such as NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids (latest edition), and NFPA 499, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas.

· Conditions for Safe Storage, Including Any Incompatibilities:

Store in closed, properly labeled containers.

Protect containers from heat, physical damage, ignition sources and incompatible materials.

Have emergency equipment for fires and spills readily available.

· **Specific End Uses:** Resin, extrusion and compounding, plastic molding, molded articles, films and coatings.

· Additional Information:

If you do not understand the hazards or safety precautions described in this data sheet, contact your supervisor or safety administrator before handling this product.

8 Exposure Controls/Personal Protection

Occupational Exposure Limits:

Use occupational exposure limits for dust when controlling exposure to this product.

25087-34-7 ethylene-butene copolymer

PEL (USA) Eight-Hour Value 15*, 5** mg/m³

*as total dust; **as respirable dust

TLV (USA) Eight-Hour Value 10*, 3** mg/m3

*as inhalable dust; **as respirable dust

· Exposure Controls: None required under normal conditions of use.

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- · Personal Protective Equipment:
- · General Protective and Hygienic Measures: Wash thoroughly after handling.
- Respiratory Protection: None required under normal conditions of use.
- · Hand Protection:



Work gloves.

Eye/Face Protection:



Safety glasses with side shields.

- · Body Protection: Protective work clothing
- Additional Information:

If unusual exposures are expected, an industrial hygiene review of work practices, engineering controls and personal protective equipment is recommended.

9 Physical/Chemical Properties

- · Information on Basic Physical and Chemical Properties
- · Appearance:

Physical State: Pellets
Color: White

Odorless

Odor Threshold: Not determined.
pH: Not determined.
Melting Point/Freezing Point: 131 °C (267.8 °F)
Boiling Point: Not determined.

• Flash Point: 335 °C (635 °F)

• **Flammability:** Product is not flammable.

Autoignition Temperature: 342 °C (647.6 °F)
 Auto-Ignition Temperature: Not determined.

· Explosion Limits:

Lower Explosive Limit (LEL):

Upper Explosive Limit (UEL):

Vapor Pressure:

Not determined.

• **Density at 20 °C (68 °F):** 0.919-0.953 g/cm³ (7.67-7.95 lbs/gal)

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Vapor Density: Not applicable. Evaporation Rate: Not applicable.

· Solubility:

Water: Insoluble.

Partition Coefficient (n-octanol/water): Not determined.
 Viscosity: Not determined.

· Other Information: No further relevant information available.

10 Stability and Reactivity

- · Reactivity: No further relevant information available.
- · Chemical Stability: Stable under anticipated conditions of use.
- · Conditions to Avoid:

Combustible dust. May form combustible dust concentrations in air. Stable up to melting point.

- · Possibility of Hazardous Reactions/Incompatible Materials: No dangerous reactions known.
- · Hazardous Decomposition Products: No dangerous decomposition products known.

* 11 Toxicological Information

- · Acute Toxicity: This product is not acutely toxic.
- · Skin Irritation: Not expected to cause skin irritation.
- · Eye Irritation: Mechanical eye irritation.
- · Respiratory Irritation: May cause respiratory irritation.
- · Respiratory or Skin Sensitization: No sensitizing effects known.
- · Subacute to Chronic Toxicity: No data available.
- · Additional Toxicological Information The substance is not subject to classification.
- Endocrine Disrupting Properties:

Substance is not listed.

12 Ecological Information

- · Aquatic Toxicity: No data available.
- · Persistence and Degradability: No data available.
- · Bioaccumulative Potential: No data available.
- · Mobility in Soil: No further relevant information available.

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Endocrine Disrupting Properties:

The product does not contain substances with endocrine disrupting properties.

13 Disposal Considerations

· Disposal Instructions:

Dispose of waste in accordance with applicable laws and regulations.

Maximize product recovery for reuse or recycling.

14 Transport Information

· UN Number:

· ADR, ADN, IMDG, IATA Not applicable.

· UN Proper Shipping Name:

· DOT, ADR, ADN, IMDG, IATA Not applicable.

· Transport Hazard Class(es):

· ADR, ADN, IMDG, IATA

· Class: Not applicable.

Packing Group:

· ADR, IMDG, IATA Not applicable.

Environmental Hazards: Not applicable.

· Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code: Not applicable.

· Additional Information:

· DOT:

· Remarks: This product is not regulated as a hazardous material/dangerous

good for transportation.

15 Regulatory Information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · <u>U.S. Superfund Amendments & Reauthorization Act (SARA) 355 (Extremely Hazardous Substances):</u> Substance is not listed.
- <u>U.S. Superfund Amendments & Reauthorization Act (SARA) 313 (Specific Toxic Chemical Listings):</u> Substance is not listed.
- · U.S. Toxic Substances Control Act (TSCA):

: ACTIVE

· Hazardous Air Pollutants

Substance is not listed.

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· California Proposition 65 Carcinogens:

Substance is not listed.

New Jersey Right-to-Know List:

Substance is not listed.

· New Jersey Special Hazardous Substance List:

Substance is not listed.

· Pennsylvania Right-to-Know List:

Substance is not listed.

· Pennsylvania Special Hazardous Substance List:

Substance is not listed.

· Canadian Substance Listings:

· Canadian Domestic Substances List (DSL):

Substance is listed.

· Canadian Non-Domestic Substances List (NDSL)

Substance is not listed.

· Canadian Ingredient Disclosure List (limit 0.1%)

Substance is not listed.

· Canadian Ingredient Disclosure List (limit 1%):

Substance is not listed.

· GHS Label Elements:

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- · Hazard Pictograms: Not Applicable
- · Signal Word: WARNING

· Hazard Statements:

Combustible dust.

May form combustible dust concentrations in air.

· Precautionary Statements:

Product is a static accumulator.

P240 Ground and bond containers and receiving equipment.

P210 Keep away from sparks and open flame.

· Chemical Safety Assessment: A Chemical Safety Assessment has not been carried out.

16 Other Information

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Formosa Plastics Corporation, U.S.A. at the time it was prepared. Formosa Plastics Corporation, U.S.A. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, Formosa Plastics Corporation, U.S.A. and its subsidiaries cannot guarantee that these are the only hazards that exist. Formosa Plastics Corporation, U.S.A. assumes no legal responsibility for loss, damage or expense arising out of, or in any way connected with, the handling, storage, use or disposal of this product.

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· Department Issuing Safety Data Sheet: Corporate Environment, Health & Safety

Abbreviations & Acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA)

TLV: Threshold Limit Value PEL: Permissible Exposure Limit **REL**: Recommended Exposure Limit

· Sources & References: * - Indicates that data has been updated from the previous version.

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