


# Safety Data Sheet

Harmonized System



## 1. IDENTIFICATION

Product identifier:

|                   |                                      |   |
|-------------------|--------------------------------------|---|
| Product Name:     | BIORENE® PE based grades:            |  |
| Trade Name:       | <b>HE - 40</b>                       |   |
| Chemical Family:  | <b>Thermoplastic Polymer</b>         |   |
| Alternative Names | <b>Polyethylene-Starch compound</b>  |   |
| Synonyms          | <b>Polyethylene -Starch compound</b> |   |

Relevant identified uses of the substance

|                     |   |
|---------------------|---|
| Recommended use (s) | <b>Can be used to produce injection or extrusion molded articles for commercial or industrial products.</b> |
| Restrictions on use | <b>None know</b>  |

Manufacturer Details

|                         |   |
|-------------------------|---|
| Manufacturer name:      | <b>Resirene, S.A. de C.V.</b>   |
| Address:                | <b>Km. 15.5 Carretera Federal Puebla-Tlaxcala<br/>Xicohtzinco, Tlaxcala 90780, Mexico</b>   |
| Phone Number:           | <b>Tel. +52 (222) 223 3101   223 3100<br/>Fax. +52 (222) 281 0130<br/>e-mail: <a href="mailto:safety@resirene.com">safety@resirene.com</a></b>  |
| Emergency Phone Number: | <b>For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak,<br/>Fire, Exposure, or Accident<br/>Call CHEMTREC Day or Night<br/>Within USA and Canada: 1-800-424-9300<br/>Outside USA and Canada: +1 703-527-3887 (collect calls accepted)</b> |

## 2. HAZARDOUS IDENTIFICATION

|                       |  |
|-----------------------|--|
| GHS Classification    | <b>Not Classified</b>  |
| Label Elements        | <b>Not applicable</b>  |
| Other Hazards         | <b>Not applicable</b>  |
| EC No 1272/2008:      | <b>This product is not classified as dangerous according to Regulation (EC) No 1272/2008</b>   |
| Directive 67/548/EEC: | <b>This product is not classified as dangerous according to EU Directive 67/548/EEC</b>  |
| EC No 1907/2006 EG    | <b>This product complies REACH Regulation (EC) No 1907/2006</b>  |
| Emergency Overview    | Product is an inert solid, in pellet form with no odor. This product is not considered flammable according to OSHA, but will burn on prolonged exposure to flame or high temperature. Vapors and fumes released during thermal processing may be irritating to the eyes, skin and respiratory system. Contact with molten material may cause thermal burns. Slipping hazard. |

## 3. COMPOSITION / INFORMATION OF INGREDIENTS

| Substance Name       | CAS Reg. No. | Weight (%) | CARCINOGEN OR TERATOGENICS |
|----------------------|--------------|------------|----------------------------|
| Polyethylene         | 9002-88-4    | >60        | NO                         |
| Thermoplastic starch | NA           | <40        | NO                         |

This product contains high molecular weight polymers and is not expected to be chemically active under normal conditions of handling and processing.

## 4. FIRST AID MEASURES

|               |   |
|---------------|---|
| Inhalation:   | Dust may cause irritation to upper respiratory tract (nose and throat). After inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm. Provide medical aid.   |
| Ingestion:    | Rinse mouth and then drink plenty of water. Remove dentures if any. If difficulties occur: Seek medical attention.<br>If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel. Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts incidental to normal handling operations. |
| Skin contact: | At ambient temperatures: Essentially nonirritating to skin. Mechanical  |

|                    |   |
|--------------------|---|
|                    | injury only. Skin absorption is unlikely due to physical properties. Areas affected by molten material should be quickly placed under cold running water. Burns caused by molten material require hospital treatment. |
| Eye contact:       | Flush eyes with plenty of water; mechanical effects only. If irritation develops, seek immediate medical attention.   |
| Note to physician: | No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested.   |

## 5. FIRE FIGHTING MEASURES

|                                 |   |
|---------------------------------|---|
| Suitable extinguishing media:   | Water, dry extinguishing media, foam, carbon dioxide.   |
| Specific hazards:               | Under fire conditions polymers decompose. The smoke may contain polymer fragments of varying compositions in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: carbon dioxide, carbon monoxide. Hazardous combustion products may include trace amounts of styrene. |
| Other flammability information: | Dense smoke is emitted when burned without sufficient oxygen. Mechanical handling can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate.   |
| Firefighting instructions:      | Keep people away. Isolate fire area and deny unnecessary entry. Cool surroundings with water to localize fire zone. Hand held carbon dioxide or dry chemical extinguishers may be used for small fires. Soak thoroughly with water to cool and prevent re-ignition.   |
| Special protective equipment:   | Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.  |
| Further information:            | Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.  |

## 6. ACCIDENTAL RELEASE MEASURES

|                            |   |
|----------------------------|---|
| Personal precautions:      | No action shall be taken involving any personal risk or without suitable training. Pellets or beads may present a slipping hazard. Sources of ignition should be kept well clear.                                       |
| Environmental precautions: | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |
| Large spill:               | Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container.   |
| Small spill:               | Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container.  |

## 7. HANDLING AND STORAGE

|           |   |
|-----------|---|
| Handling: | Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Ground all equipment containing material. |
| Storage:  | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Never stack pallets more than two high to prevent the risk of them falling over.         |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Personal protective equipment

|                                      |   |
|--------------------------------------|---|
| Respiratory protection:              | Breathing protection if dusts are formed. Particle filter Type P1 or FFP1 (low efficiency for solid particles e.g. EN143, 149).   |
| Hand protection:                     | Use additional heat protection gloves when handling hot molten masses (e.g. of textile or leather).   |
| Eye protection:                      | Safety glasses with side-shields (frame goggles)  |
| Body protection:                     | Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit.   |
| General safety and hygiene measures: | Avoid contact of molten material with skin. Avoid inhalation of dusts/mists/vapors. Eye wash fountains and safety showers must be easily accessible. Handle in accordance with good industrial hygiene and safety practice. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                 |                                      |
|-----------------|--------------------------------------|
| Physical state: | Granular solid.                      |
| Color:          | Light brown to dark brown, yellowish |
| Odor:           | Faint starch odor                    |
| Melting Point:  | >100 °C (> 212 °F)                   |
| Flash Point:    | Closed cup: >260 °C (> 500°F)        |

|                      |                 |
|----------------------|-----------------|
| Specific Gravity:    | 1.05 (Water =1) |
| Solubility in water: | Insoluble       |

## 10. STABILITY AND REACTIVITY

|                                   |   |
|-----------------------------------|---|
| Stability:                        | The product is stable.  |
| Conditions to Avoid:              | Avoid extreme heat. Avoid all sources of ignition: heat, sparks and open flame.   |
| Substances to avoid:              | Strong oxidizing agents   |
| Hazardous reactions:              | The product is chemically stable.   |
| Hazardous Decomposition Products: | Monomers, oxides, gases/vapors, hydrocarbons, cyclic low molecular weight oligomers, Gaseous products of degradation can be given off if the product is greatly overheated. |

## 11. TOXICOLOGICAL INFORMATION

|                                   |   |
|-----------------------------------|---|
| Potential acute health effects:   | No known significant effects or critical hazards. |
| Potential chronic health effects: | No known significant effects or critical hazards. |
| Mutagenicity:                     | No known significant effects or critical hazards. |
| Teratogenicity:                   | No known significant effects or critical hazards. |
| Developmental effects:            | No known significant effects or critical hazards. |

## 12. ECOLOGICAL INFORMATION

|                            |  |
|----------------------------|--|
| Movement & partitioning:   | No bioconcentration is expected because of the high molecular weight (MW>1000). In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment, material will sink and remain in the sediment. |
| Degradation & persistence: | This water insoluble polymeric solid is expected to be inert in the environment. Surface degradation is expected with exposure to the sunlight. No appreciable biodegradation is expected.   |
| Ecotoxicity:               | Not expected to be acutely toxic, but pellets, may mechanically cause adverse effects, if ingested by waterfowl or aquatic life.   |

## 13. DISPOSAL CONSIDERATIONS

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations.

Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

RESIRENE, S.A. DE C.V. HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 3 (Composition/Information on Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device. As a service to its customers, Resirene can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess, or manage chemicals or plastics, and that manage used drums.

Resirene's Customer Information Center telephone: +52 (222) 223 3101, or within USA Toll free 1866 372 3470, or within México Toll free 01 800 RESINAS for further details.

## 14. TRANSPORT INFORMATION

|   |  |
|---|--|
| U.S. Department of Transportation (D.O.T.): | This product is not regulated by D.O.T. when shipped domestically by land. |
| Canadian TDG Information                    | This product is not regulated by TDG when shipped domestically by land.    |
| European Union                              | This product is not regulated.   |
| IATA  | This product is not controlled by IATA for aerial transport.               |

## 15. REGULATORY INFORMATION

(Not meant to be all-inclusive—selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

E. U. REGULATIONS

European Inventory of Existing Commercial Chemical Substances (EINECS): The components of this product are on the EINECS inventory or are exempt from inventory requirements.

EC Classification and User Label Information: This product is not classified as dangerous according to EC criteria.

REACH: This product do not contain in their production recipe any of the substances published in the referred list as of today and available at the website: <http://echa.europa.eu/candidate-list-table>

U.S. REGULATIONS

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

TOXIC SUBSTANCES CONTROL ACT (TSCA):

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

OSHA HAZARD COMMUNICATION STANDARD:

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is: This product is not a "Controlled Product" under WHMIS.

**16. OTHER INFORMATION**

Date of previous issue: June 2017

Version: 5

|               |  |
|---------------|--|
| HMIS Ratings: | Health: 1 Fire: 1 Physical Hazard: 0<br><i>Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic Hazard</i> |
| NFPA Ratings: | Health: 1 Fire: 1 Physical Hazard: 0<br><i>Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe</i>                    |

The information contained in the Material Safety Data Sheet is at the date of its issuance to the best of our knowledge correct according to the data available to us. The information is meant as a guideline for safe use, handling, disposal, storage and transport of products and does not imply any warranty (not implied nor explicitly) or specification. The Supplier shall to the extent permitted by law not be liable for any error or incorrectness in the information attend in this Material Safety Data Sheet. The information relates exclusively to the specified products, which may not be suitable for combination with other materials or use in processes other than those specifically described here.