

# Flexalen® PB EVOH

## Safety Data Sheet

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### Section 1: Identification of the mixture and of the company

#### 1.1. Product identifier

Flexalen® PB EVOH

#### 1.2. Relevant identified uses of the mixture and uses advised against

Manufacture of directly extruded PB-1 service pipes in wide range of dimensions and co-extruded adhesion and EVOH oxygen barrier layer. PB service pipes application for heating and drinking water systems.

#### 1.3. Details of the supplier of the safety data sheet

Thermaflex Isolatie b.v.

Veerweg 1

5145 NS Waalwijk

Tel. +31 416 567 777

Safety responsible: safety officer production site Waalwijk

#### 1.4. Emergency phone number

Thermaflex Isolatie b.v.

+31 416 567 777 (line available 8 a.m. – 5 p.m.)

National Poisons Information Center (NVIC)

+31 30 274 8888 (24 hours, 7 days a week)

## Section 2: Hazards identification

### 2.1. Classification of the mixture

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

### 2.2. Label elements

Not a hazardous substance or mixture according to Regulation (EC) no 1272/2008. Therefore, no exceptional label elements are needed.

### 2.3. Other hazards

If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Subject to reasonable care and cleanliness there is no obvious problems associated with the handling of PB-1.

## Section 3: Composition/ information on ingredients

### 3.1. Substances

Polybutene-1 (PB-1), Ethylene vinyl alcohol copolymer (EVOH), Maleic anhydride propylene copolymer

### 3.2. Mixtures

Components

Component	Cas no.	Classification (Regulation (EC) no 1272/2008)	Weight %
Polybutene	9003-28-5	Not classified	95.0 – 100.0 %
Ethylene vinyl alcohol copolymer	26221-27-2	Not classified	< 1.0%
Maleic anhydride propylene copolymer	-	Not classified	< 1.0%

Contains: additives, stabilizers, glue and pigments

## Section 4: First aid measures

### 4.1. Description of first aid measures

- General advice : Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.
- If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention. In case of excessive inhalation of fumes that may be generated during heating of this material, move person to fresh air. Obtain medical attention. Keep person warm, if necessary give Cardio-Pulmonary-Resuscitation (CPR).
- In case of skin contact : If molten material contacts the skin, immediately flush with large amounts of water to cool the affected tissue and polymer. Do not attempt to peel polymer from skin as this will remove the skin. Obtain immediate emergency medical attention if burn is deep or extensive.
- In case of eye contact : Flush eyes thoroughly with water for several minutes and seek medical attention if discomfort persists.  
In case of eye contact with molten polymer: continuously flush eye(s) with cool running water for at least 15 minutes. Beyond flushing, DO NOT attempt to remove the material adherent to the eye(s). Immediately seek medical attention
- If swallowed : Adverse health effects due to ingestion are not anticipated.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms : Inhalation of process fumes and vapours may cause soreness in the nose and throat and coughing.
- Hazards : Dust contact with the eyes can lead to mechanical irritation. Molten polymer may cause thermal burns.

### 4.3. Indication of any immediate attention and special treatment needed

Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

## Section 5: Firefighting measures

### 5.1. Fire extinguishing media

Water spray, extinguishing foam, CO<sub>2</sub>-extinguisher.

### 5.2. Special hazards arising from the substance or mixture

Keep away from heat and sources of ignition. In case of fire hazardous decomposition products may be produced such as carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and unburned hydrocarbons (smoke).

### 5.3. Advice for firefighters

Wear approved positive pressure self-contained breathing apparatus and firefighter protective clothing.

Combustible particulate solid, will decompose under fire conditions.

Calorific value: 8000 – 11000 kcal/kg

Fight fire from safe distance with hose lines or monitor nozzles Heat from fire may melt, decompose polymer and generate flammable vapours. Move containers from fire area if it can be done without risk. Evacuate immediately in the event of opening of storage container pressure relief devices or discoloration of container. Always stay away from tanks engulfed in fire. Do not attempt to get on top of storage containers involved in fire. Cool storage containers with large volumes of water even after fire is out.

## Section 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Equip responders with proper protection. Creates dangerous slipping hazard on any hard smooth surface.

Equip emergency responders with proper personal protective equipment. Avoid generating dust. Avoid dispersal of dust in the air (e.g. clearing dust surfaces with compressed air).

Potential combustible dust hazard. Polymer particles create slipping hazard on hard smooth surfaces.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

### 6.3. Methods and materials for containment and cleaning up

On land, sweep/shovel into suitable disposal containers or vacuum using equipment which avoids ignition risk.

On water, material is insoluble; collect and contain as any solid.

All recovered material should be packaged, labelled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible.

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

If converted to small particles during further processing, handling or by other means, may form combustible dust concentrations in air.

Avoid dust accumulation in enclosed space.

Avoid generating dust; fine dust suspended in air and in the presence of an ignition source is a potential dust explosion hazard.

Static discharge (spark), or other ignition sources, in high dust environments may ignite the dust and result in a dust explosion.

Electrostatic charge may build during conveying or handling.

Equipment handling polymer should be conductive and grounded (earthed) and bonded.

Metal containers involved in the transfer of this material should be grounded and bonded.

All electrical equipment conforms to applicable electric codes and regulatory requirements for areas handling combustible dusts.

After handling, always wash hands thoroughly with soap and water.

When bringing the material to processing temperatures vapours may develop may condense in the exhaust ventilation. See section 10.

Polymer will burn but does not easily ignite.

### 7.2. Conditions for safe storage, including any incompatibilities

Store in a dry location.

Use good housekeeping practices during storage, transferring and handling. Process enclosures and adequate ventilation should be used to avoid excessive dust accumulation.

Store away from excessive heat and away from strong oxidizing agents

Keep container closed to prevent contamination.

Take measures to prevent the build-up of electrostatic charge.

### 7.3. Specific end use(s)

No further relevant information available.

## Section 8: Exposure controls/ personal protection

### 8.1. Control parameters

Materials that can be formed when handling this product: non-specified (inert or nuisance) dust:

Inhalable 10 mg/m<sup>3</sup>

Respirable 3 mg/m<sup>3</sup>

Consult local authorities for acceptable exposure limits.

### 8.2. Exposure controls

#### Engineering measures

Follow the recommendations in international standard NFPA 654 (as amended and adopted) for equipment used to handle this product.

Engineer tools, e.g. enclosed systems, should be used whenever feasible to maintain exposures below acceptable criteria. When such controls are not feasible, or sufficient to achieve full conformance, other engineering controls such as local exhaust ventilation should be used. 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 (e.g. there is no leakage from the equipment).

#### Personal protective equipment

Respiratory protection: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators. Use appropriate respiratory protection where atmosphere exceeds recommended limits. Where workers could be exposed limit, they must use appropriate certified respirators.

Hand protection: Wear gloves that provide thermal protection where there is a potential for contact with heated material.

Eye and face protection: Dust service goggles should be worn to prevent mechanical injury or other irritation to eyes due to airborne particles which may result from handling this product.

Skin and body protection: Wear suitable protective clothing.

Hygiene measures: Selection of appropriate personal protective equipment should be based on evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Take off contaminated clothing and wash before reuse.

## Section 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance	: Round tubes
Colour	: Grey inside with red (shiny) outer layer
Odour	: Slight/odourless
Lower explosion limit	: the minimum explosive concentration (MEC) for polymer dust varies according to particle size distribution.
Upper explosion limit	: Not applicable
Flammability (solid, gas)	: Polymer will burn but does not easily ignite
Oxidizing properties	: Not considered an oxidizing agent
Autoignition temperature	: > 300 °C
Decomposition temperature	: Not determined
Melting point/range	: 50 – 170 °C
Density	: < 1 g/cm <sup>3</sup>
Water solubility	: Insoluble

### 9.2. Other information

No additional information available.

## Section 10: Stability and reactivity

### 10.1. Reactivity

No known reactivity hazards.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reaction

Hazardous reactions will not occur.

### 10.4. Conditions to avoid

Avoid contact with strong oxidizers, excessive heat, sparks or open flame.

### 10.5. Incompatible materials

Material may be softened by some hydrocarbons.

### 10.6. Hazardous decomposition products

Not expected to decompose under normal conditions.

NOTE: carbon monoxide, olefinic and paraffinic compounds, trace amounts of organic acids, ketones, aldehydes and alcohols may be formed under thermal decomposition.

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

Acute oral toxicity : Not classified

Acute inhalation toxicity : Not classified

Acute dermal toxicity : Not classified

Skin corrosion/irritation : Not a skin irritant

Serious eye damage/eye irritation : Not an eye irritant. Mechanical irritation is possible.

Respiratory or skin sensitization : Not classified

Carcinogenicity : Not classified

Germ cell mutagenicity : Not classified

Effects on fertility : Not classified

Effects on or via lactation : Not classified

Effects on development : Not classified

The substance or mixture is not classified as specific target organ toxicant, in single or repeated exposure.

Aspiration hazard is not applicable.

## Section 12: Ecological information

### 12.1. Ecotoxicology assessment

Short-term (acute) aquatic hazard : Not classified

Long-term (chronic) aquatic hazard : No classified

### 12.2. Persistence and degradability

Not expected to be biodegradable.

### 12.3. Bio accumulative potential

This material is not expected to be bioaccumulate.

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT) or very persistent and very bio accumulative (vPvB).

### 12.6. Other adverse effects

This material is not volatile and insoluble in water.

### 12.7. Other information

Ecotoxicity is expected to be minimal based on the low water solubility of polymers. No data available on this product. However, birds, fish and other wildlife maybe eat waste, obtained during installation, which may obstruct their intestinal tracts.

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

All recovered material should be packaged, labelled, transported and disposed of or reclaimed in conformance with applicable laws and regulation and in conformance with good engineering practices. Reclaim where possible, recycle if possible.

At Thermaflex Isolation b.v., we support to send back the material to the production site in Waalwijk where the materials will be recycled.

## Section 14: Transport information

### 14.1. UN number

Not applicable

### 14.2. UN proper shipping name

Not applicable

### 14.3. Transport hazard class(es)

No restriction and no dangerous material in relation to transportation regulations according to regulations ADR/RID, IMO and IATA.

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Not applicable

### 14.6. Special precautions for user

Not applicable

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

## Section 15: Regulatory information

### 15.1. Safety, health and environmental regulations/ legislation specific for the mixture

If the product has been purchased from any company of the Thermaflex Isolatie b.v. group or companies registered in the European Union, we confirm that all substances in this preparation have been registered under REACH, in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006)

### 15.2. Chemical safety assessment

No information available.

## Section 16: Other information

No further relevant information available.

For additional product information please contact Thermaflex Isolatie b.v.