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# Material Safety Data Sheet (1907/2006/EC)

Material: FM LLDPE 22B01, FM LLDPE 22B02, FM LLDPE 22B03  
Version 1.1 (EN) Revision date: 20/07/2017

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## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 *Product identifier*

Commercial product name: FM LLDPE 22B01, FM LLDPE 22B02, FM LLDPE 22B03  
Product identifier: Ethylene, polymer with 1-butene, Ethene-Butene copolymer  
CAS No.: 25087-34-7

### 1.2 *Relevant identified uses of the substance or mixture and uses advised against*

Use of substance / preparation: Manufacture of plastic articles by injection molding, extrusion or other conversion process. Prohibited uses: FDA Class III medical devices; European class III medical devices; Health Canada class IV Medical Devices; Applications involving permanent implantation into the body; Life-sustaining medical applications

### 1.3 *Details of the supplier of the Material Safety Data Sheet*

Manufacturer/distributor:	FM Plastics BV
Street/POB-No.:	Bultweg 11
Postal code/city:	8346 KA, De Bult
Country:	The Netherlands
Telephone:	+31 521 520 041
Telefax:	+31 521 522 084
Information about the Material Safety Data Sheet:	
Telephone:	+31 521 520 041
Telefax:	+31 521 522 084
E-mail	info@fmplastics.nl

### 1.4 *Emergency telephone number*

Emergency Information (Benelux): Fire brigade/Hazardous Material +32 14 58 45 45

## 2. Hazards identification

### 2.1 *Classification of the substance or mixture*

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

## 2.2 *Label elements*

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

## 2.3 *Other hazards*

If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air. This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

## 3. Composition/information on ingredients

### 3.1 *Substances*

Chemical Name: 1-Butene, polymer with ethene  
CAS-No. EINECS-No. / ELINCS No./EC-No.: 25087-34-7  
Weight %: > 99.5 %  
Component Type: -  
Contains: Stabilizers

## 4. First aid measures

### 4.1 *Description of first aid measures*

General information: Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.

After contact with the eyes: 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.

After contact with the skin: 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.

After inhalation: 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 the person to fresh air. Obtain medical attention. Keep person warm, if necessary give Cardio-Pulmonary Resuscitation (CPR)

After swallowing: 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 vapors 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 medical attention and special treatment needed*

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

## 5. Firefighting measures

### 5.1 *Extinguishing media*

Suitable extinguishing media: SMALL FIRE: Use dry chemical, CO<sub>2</sub>, or water spray. LARGE FIRES: Use water spray hose nozzles from a safe location.

Extinguishing media which must not be used for safety reasons: None known.

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

Specific hazards during fire fighting: Keep away from heat and sources of ignition. In case of fire hazardous decomposition products may be produced such as: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

### 5.3 *Advice for firefighters*

Special protective equipment for fire fighting: Wear approved positive pressure self-contained breathing apparatus and firefighter protective clothing.

Further information: 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 vapors. 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.

## 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 (PPE) Avoid generating dust. Avoid dispersal of dust in the air (i.e., 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 material 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, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible.

## 7. Handling and storage

### 7.1 *Precautions for safe handling*

Precautions for safe handling: Material is in a pellet form. 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 should conform 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 vapors may develop may condense in the exhaust ventilation. See section 10.

Precautions against fire and explosion: Polymer will burn but does not easily ignite.

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

Conditions for storage rooms and vessels: 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)*

See Section 1.2.

## 8. Exposure controls/personal protection

### 8.1 *Control parameters*

Ingredients with workplace control parameters  
Occupational Exposure Limits

Ingredients	CAS-No.	Type	Limit Value	Basis Revision Date	Additional Information
Materials that can be formed when handling this product: Non-specified (inert or nuisance) dust		TWA	10 mg/m <sup>3</sup> inhalable	US (ACGIH) 2005	
Materials that can be formed when handling this product: Nonspecified (inert or nuisance) dust		TWA	3 mg/m <sup>3</sup> respirable	US (ACGIH) 2005	

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. Engineering controls, i.e. 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 (i.e., 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 to dust concentrations above the exposure 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 an 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.

### Environmental exposure controls

General advice: See section 6.

## 9. Physical and chemical properties

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

Appearance: Pellets

Colour: Translucent to white

Odour: Slight

Lower explosion limit (LEL): Note: The minimum explosive concentration (MEC) for polymer dust varies according to particle size distribution.

Upper explosion limit (UEL): Note: Not applicable.

Flammability (solid, gas): Polymer will burn but does not easily ignite.

Oxidizing properties: Not considered an oxidizing agent.

Autoignition temperature: > 300 °C

pH: Note: Not applicable.

Melting point/range: 50 - 170 °C

Boiling point/boiling range: Note: Not applicable.

Vapor pressure: Note: Not applicable.

Density: < 1 g/cm<sup>3</sup>

Water solubility: Note: Insoluble.

Partition coefficient, noctanol/water: Note: No Data Available.

Viscosity, dynamic: Note: Not applicable.

Relative vapor density: Note: Not applicable.

Evaporation rate: Note: Not applicable.

Explosive properties: No Data Available.

## 10. Stability and reactivity

### *10.1 Reactivity*

No known reactivity hazards.

### *10.2 Chemical stability*

Stable under normal conditions.

### *10.3 Possibility of hazardous reactions*

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*

Materials to avoid: Material may be softened by some hydrocarbons.

## 10.6 Hazardous decomposition products

Hazardous decomposition products: Not expected to decompose under normal conditions.  
Thermal decomposition : Note: Carbon monoxide, olefinic and paraffinic compounds, trace amounts of organic acids, ketones, aldehydes and alcohols may be formed.

## 11. Toxicological information

### 11.1 Information on toxicological effects

#### **Acute toxicity**

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

#### **Chronic toxicity**

Carcinogenicity: Not classified

Germ cell mutagenicity: Not classified

#### **Reproductive toxicity**

Effects on fertility / Effects on or via lactation: Not classified

Effects on Development: Not classified

**Target Organ Systemic Toxicant - Single exposure:** The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Target Organ Systemic Toxicant - Repeated exposure:** The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Aspiration hazard:** Not applicable.

## 12. Ecological information

### 12.1 Toxicity

Ecotoxicology Assessment

Acute aquatic toxicity: Not classified

Chronic aquatic toxicity: Not classified

### 12.2 Persistence and degradability

Biodegradability: Not expected to be biodegradable.

### 12.3 Bioaccumulative potential

Bioaccumulation: This material is not expected to bioaccumulate.

#### 12.4 *Mobility in soil*

This material is not volatile and insoluble in water.

#### 12.5 *Results of PBT and vPvB*

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

#### 12.6 *Other adverse effects*

Additional ecological 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 may eat pellets which may obstruct their intestinal tracts.

### 13. [Disposal considerations](#)

#### 13.1 *Waste treatment methods*

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

### 14. [Transport information](#)

Not regulated for transport.

### 15. [Regulatory information](#)

#### 15.1 *Safety, health and environmental regulations/legislation specific for the substance or mixture*

##### **REACH status**

If the product has been purchased from FM Plastics, we confirm that the chemical substance in this product has been pre-registered or, where required under REACH, registered, and that we have the intention to proceed with any required registration in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006)

##### **Other international regulations**

###### Global Inventory Status

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions. \*Additional Explanatory Status Statements follow the table, as necessary.



Country/Region	Inventory	Status Description
Australia	AICS	Compliant
Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	See REACH Compliance Statement
Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant
Taiwan	TCSCA	Compliant

## 15.2 Chemical safety assessment

No information available.

## 16. [Other information](#)

**Disclaimer:** Multiple legal entities and registration numbers may be displayed in Section 1. The Recipient shall refer to the shipping documents to identify the legal entity that supplied this product. This document is generated for the purpose of distributing health, safety, and environmental data. Information is correct to the best of our knowledge at the date of the MSDS publication. It is not a specification sheet nor should any displayed data be construed as a specification. Before using a product sold by FM Plastics, users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally. SELLER MAKES NO WARRANTY; EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY) OTHER THAN AS SEPARATELY AGREED TO BY THE PARTIES IN A CONTRACT. Users should review the applicable Material Safety Data Sheet before handling the product. This product(s) may not be used in the manufacture of any of the following, without prior written approval by Seller for each specific product and application: (i) U.S. FDA Class I or II Medical Devices; Health Canada Class I, II or III Medical Devices; European Union Class I or II Medical Devices; (ii) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices; (iii) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration; (iv) tobacco related products and applications, electronic cigarettes and similar devices. The product(s) may not be used in: (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices; (ii) applications involving permanent implantation into the body; (iii) life-sustaining medical applications. All references to U.S. FDA, Health Canada, and European Union regulations include another In addition to the above, FM Plastics may further prohibit or restrict the use of its products in certain applications. For further information, please contact a FM Plastics representative. The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg.

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- End of Material Safety Data Sheet -