SAFETY DATA SHEET

Polystyrene Sample For Pyrolizer, Part Number FLBPY1-4910

Section 1. Identification

Product identifier : Polystyrene Sample For Pyrolizer, Part Number FLBPY1-4910
Part No. : FLBPY1-4910
Chemical identity : Benzene, ethenyl-, polymer with 1,3-butadiene

Relevant identified uses of the substance or mixture and uses advised against
Analytical chemistry.

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: (61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture
H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A

GHS label elements

Hazard pictograms : ![Warning Symbol]

Signal word : WARNING
Hazard statements : H319 - Causes serious eye irritation.

Precautionary statements
Prevention : P280 - Wear eye or face protection.
P264 - Wash hands thoroughly after handling.
Response : P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.
Storage : Not applicable.
Disposal : Not applicable.
Supplemental label elements

Other hazards which do not result in classification : May form explosible dust-air mixture if dispersed.

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Date of previous issue : 12/01/2016
Version : 3.2
Section 3. Composition and ingredient information

Substance/mixture: Substance

CAS number/other identifiers

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>% (w/w)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene, ethenyl-, polymer with 1,3-butadiene</td>
<td>100</td>
<td>9003-55-8</td>
</tr>
</tbody>
</table>

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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Causes serious eye irritation.

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following: pain or irritation watering redness

Inhalation: Adverse symptoms may include the following: respiratory tract irritation coughing

Skin contact: No specific data.

Ingestion: No specific data.
Section 4. First aid measures

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician**: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**: No specific treatment.

**Protection of first-aiders**: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Firefighting measures

**Extinguishing media**

**Suitable extinguishing media**: Use dry chemical powder.

**Unsuitable extinguishing media**: Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

**Specific hazards arising from the chemical**

**Hazardous thermal decomposition products**: May form explosible dust-air mixture if dispersed.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions**

Avoid dispersal of spilt 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).

**Methods and material for containment and cleaning up**

**Methods for cleaning up**

Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Section 7. Handling and storage

Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene: 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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits: None.

Appropriate engineering controls: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour 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. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection
Section 8. Exposure controls and personal protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance
Physical state: Solid.
Colour: Off-white.
Odour: Odourless.
Odour threshold: Not available.
pH: Not available.
Melting point: Not available.
Boiling point: Not available.
Flash point: Not available.
Evaporation rate: Not available.
Flammability (solid, gas): Flammable in the presence of the following materials or conditions: heat.
Lower and upper explosive (flammable) limits: Not available.
Vapour pressure: Not available.
Vapour density: Not available.
Relative density: 0.94
Density: 0.94 g/cm³ [25°C (77°F)]
Solubility: Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: >260°C (>500°F)
Viscosity: Not available.

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.
Section 10. Stability and reactivity

**Conditions to avoid**: Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.

**Incompatible materials**: Reactive or incompatible with the following materials: oxidizing materials

**Hazardous decomposition products**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**
Not available.

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene, ethenyl-, polymer with 1,3-butadiene</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitisation**
Not available.

**Mutagenicity**
Not available.

**Carcinogenicity**
Not available.

**Reproductive toxicity**
Not available.

**Teratogenicity**
Not available.

**Specific target organ toxicity (single exposure)**
Not available.

**Specific target organ toxicity (repeated exposure)**
Not available.

**Aspiration hazard**
Not available.

**Information on likely routes of exposure**

**Potential acute health effects**

**Eye contact**: Causes serious eye irritation.

**Inhalation**: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

**Skin contact**: No known significant effects or critical hazards.

**Ingestion**: No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**
Section 11. Toxicological information

**Eye contact**
- Adverse symptoms may include the following:
  - pain or irritation
  - watering
  - redness

**Inhalation**
- Adverse symptoms may include the following:
  - respiratory tract irritation
  - coughing

**Skin contact**
- No specific data.

**Ingestion**
- No specific data.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Short term exposure**
- **Potential immediate effects**
  - Not available.
- **Potential delayed effects**
  - Not available.

**Long term exposure**
- **Potential immediate effects**
  - Not available.
- **Potential delayed effects**
  - Not available.

**Potential chronic health effects**
- Not available.

**General**
- Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

**Carcinogenicity**
- 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.

**Fertility effects**
- No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**
- Not available.

Section 12. Ecological information

**Toxicity**
- Not available.

**Persistence and degradability**
- Not available.

**Bioaccumulative potential**
- Not available.

**Mobility in soil**
- **Soil/water partition coefficient (Koc)**
  - Not available.

**Other adverse effects**
- No known significant effects or critical hazards.
## Section 13. Disposal considerations

**Disposal methods**
- The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

### Regulatory information
- **ADG / IMDG / IATA**: Not regulated as Dangerous Goods according to the ADG Code.

### Special precautions for user
- **Transport within user’s premises**: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

### Transport in bulk according to Annex II of Marpol and the IBC Code
- Not available.

## Section 15. Regulatory information

### Standard Uniform Schedule of Medicine and Poisons
- Not regulated.

### Model Work Health and Safety Regulations - Scheduled Substances
- No listed substance

### Australia inventory (AICS)
- This material is listed or exempted.

### International regulations
- **Chemical Weapon Convention List Schedules I, II & III Chemicals**: Not listed.
- **Stockholm Convention on Persistent Organic Pollutants**: Not listed.
- **UNECE Aarhus Protocol on POPs and Heavy Metals**: Not listed.

### International lists
- **National inventory**
  - Canada: This material is listed or exempted.
  - China: This material is listed or exempted.
  - Europe: Not determined.
  - Japan
    - Japan inventory (ENCS): This material is listed or exempted.
    - Japan inventory (ISHL): This material is listed or exempted.
  - Malaysia: Not determined.

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**Date of previous issue**: 12/01/2016
**Version**: 3.2
Section 15. Regulatory information

New Zealand: This material is listed or exempted.
Philippines: This material is listed or exempted.
Republic of Korea: This material is listed or exempted.
Taiwan: This material is listed or exempted.
Turkey: Not determined.
United States: This material is listed or exempted.

Section 16. Any other relevant information

History
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Version: 3.2

Key to abbreviations:
ADG = Australian Dangerous Goods
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
NOHSC = National Occupational Health and Safety Commission
SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2A, H319</td>
<td>Expert judgment</td>
</tr>
</tbody>
</table>

References: Not available.

Indicates information that has changed from previously issued version.

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