1. Identification of the substance & the company

- **Chemical name**: 2-Propenoic acid, (2,3,4,5,6-bromophenyl)methyl ester, homopolymer
- **Synonym(s)**: PBB-PA, Brominated polyacrylate
- **CAS number**: 59447-57-3
- **Chemical formula**: \((C_{10}H_{5}Br_{5}O_{2})_x\)
- **Chemical family**: Polyhalogenated aromatic polymer
- **Molecular weight**: > 500 kDa
- **Type of product and use**: A polymeric flame retardant additive.
- **Supplier**: ICL-IP America Inc.
  622 Emerson Road - Suite 500
  St Louis, Missouri 63141, USA
  Tel:(314)983-7884 Fax:(314)983-7607

2. Hazards identification

- **Emergency overview**: White free flowing powder, odourless which is not hazardous

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propenoic acid, (2,3,4,5,6-bromophenyl)methyl ester, homopolymer</td>
<td>59447-57-3</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
4. First-aid measures

Eye contact
Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes.
Get medical attention immediately.

Skin contact
Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use.
Get medical attention if irritation occurs.

Inhalation
In case of dust inhalation or breathing fumes released from heated material, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately.

Ingestion
If swallowed, wash mouth thoroughly with plenty of water and give water to drink.
Get medical attention immediately.

NOTE: Never give an unconscious person anything to drink.

Notes to the physician
Material with low toxicity.
No specific antidote. Treat symptomatically and supportively. In case of ingestion induce vomiting in alert patient.

5. Fire-fighting measures

Suitable extinguishing media
Carbon dioxide, dry chemicals, foam, water spray (fog).

Fire-fighting procedure
Cool containers with water spray. In closed stores, provide fire-fighters with self-contained breathing apparatus in positive pressure mode.

Unusual fire and explosion hazards
Dust may form a weak explosive mixture with air (class St1)
When heated to decomposition, may release poisonous fumes of HBr.
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6. Accidental release measures

Personal precautions: Wear respirator, chemical safety goggles, rubber gloves and boots

Methods for cleaning up: Avoid raising dust. Sweep up, place in a bag and hold for waste disposal or possible re-use. Ventilate area and wash spill site after material pickup is complete.

7. Handling and storage

Handling: Avoid bodily contact. Keep containers tightly closed.

Storage: Store in a dry, cool, well-ventilated area away from incompatible materials (see "materials to avoid").

8. Exposure controls / personal protection

Exposure Limits:

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH-TLV Data</th>
<th>OSHA (PEL) Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propenoic acid, (2,3,4,5,6-bromophenyl)methyl ester, homopolymer 59447-57-3</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Ventilation requirements: Ventilation must be sufficient to maintain TLV-TWA below 3 mg/m³, respirable particles, and 10 mg/m³, inhalable particles (ACGIH recommendation for Particles (Insoluble or poorly soluble) Not Otherwise Specified (PNOS)).

Personal protective equipment:
- Respiratory protection: Dust respirator
- Hand protection: Protective gloves
- Eye protection: Chemical safety goggles
- Skin and body protection: Body covering clothes and boots
Hygiene measures
Safety shower and eye bath should be provided. Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking.

9. Physical and chemical properties

Appearance  White to off-white free flowing powder
Boiling point/range  Not applicable
Softening point/range  190-220°C
Flash point  None
Flammable/Explosion limits  Not flammable
Auto-ignition temperature  Not self-ignitable
Vapour pressure  <0.075 mmHg (0.1 mbar ) @ 20°C
Evaporation rate (ether=1)  Not applicable under standard conditions
Vapor density  Not applicable under standard conditions
Solubility:
- Solubility in water  Practically insoluble
- Solubility in other solvents  Insoluble in most common organic solvents
Specific gravity  2.2
Decomposition temperature  > 330°C

10. Stability and reactivity

Stability  Stable under normal conditions.
Materials to avoid  None known
Conditions to avoid  Heating above decomposition temperature
Hazardous decomposition products  Hydrogen bromide
Hazardous polymerization  Not relevant
11. Toxicological information

Acute toxicity:
- Rat oral LD50: > 5,000 mg/kg
- Eye irritation (rabbit): Minimal irritant
- Dermal irritation (rabbit): Not irritant

Dermal sensitization: Not a sensitizer

Chronic toxicity: Not available

Mutagenicity: Not mutagenic by the Ames Test (Salmonella & E. coli)

Carcinogenicity: Not classified by IARC
Not included in NTP 11th Report on Carcinogens

12. Ecological information

Information on ecological effects: Analysis performed in incineration gas of Poly 5 bromobenzylacrylate showed no polybrominated Dibenzodioxins and Dibenzofurans present at a level higher than the limits of quantitation (LOQs) specified by US EPA Toxic Substance Control Act (TSCA) 40 CFR 766.27

Aquatic toxicity: No data available

Bioaccumulative potential: No data available

Germany, water endangering classes (WGK): 1

13. Disposal considerations

Waste disposal: Treat the solid waste and packaging waste via an incinerator equipped with an adequate gas cleaning system or send to a controlled landfill. Observe all federal, state and local environmental regulations when disposing of this material
14. Transportation information

DOT Not regulated
IMO Not regulated
ICAO/IATA Not regulated

15. Regulatory information

USA Reported in the EPA TSCA Inventory.
Canada Listed in DSL
-WHMIS hazard class Non-controlled
EU This product is a polymer.
The monomer is reported in EINECS (No. 2617677)
Japan ISHL No. 9-826
Japanese METI ENCS 6-1671
Australia Listed in AICS
New Zealand Inventory Listed in NZIoC
China inventory Listed in IECSC
Korea Listed in the Korea Existing Chemicals Inventory (KECI), number 28933

16. Other information

This data sheet contains changes from the previous version in section(s)
1, 9, 12
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Health, Safety & Environment Policy
We will strive to ensure that our operations and products meet the needs of the present global community without compromising the ability of future generations to meet their needs.
We accept that the success of our business is dependent on the supply of products and services that will benefit society whilst ensuring human safety and protection of the environment and natural resources.
Within the framework of our commitment to the Responsible Care program, we will provide a healthy and safe work environment for employees and will responsibly manage our products at all stages of their life cycle in order to protect human health and the environment whilst maintaining high production standards of operation.

TO MEET THIS COMMITMENT WE WILL:
Comply with or exceed applicable national and international regulatory requirements and other requirements to which we subscribe.
Communicate openly and actively encourage dialogue with employees, customers and community concerning our products and operations.
Implement documented management systems consistent with and for promotion of the Responsible Care ethics.
Develop and supply products that can be manufactured, transported, used and disposed of safely whilst best meeting the needs of our customers.
Regularly assess, continually improve and responsibly manage health, safety and environmental risks associated with products and processes throughout their life-cycles.
Share knowledge and expertise with others and seek to learn from and incorporate improved practices into our own operations.
Educate and train employees, contractors and customers to improve their HSE performance.
Communicate up-to-date information to enable our workers, customers and other interested parties to handle our products in a safe and environmentally responsible manner.
Endeavor to work with customers, suppliers, distributors and contractors to foster the safe use, transport and disposal of our chemicals.
Support Product Stewardship programs in cooperation with customers, distributors and transporters.

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In an event of discrepancy between the contents of this MSDS and the English version of it, the English version shall prevail.
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End of safety data sheet