

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29 CFR 1910.1200 (HAZCOM 2012 - GHS)
According to Canada Hazardous Products Regulation (WHMIS 2015)

Product name	FR-1025	
Product id	8425	
Revision date	16/08/2018	Revision: 13
Supersedes	25/12/2017	

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.
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 e-mail:msdsinfo@icl-group.com
Emergency Telephone	CHEMTREC : (800) 424-9300 Medical: PROSAR 1-888-875-1685 (24HRS)

2. Hazards identification

GHS classification	Product is not subject to classification according to GHS. No label elements required.
Additional OSHA/ WHMIS 2015 hazards	Combustible dust Warning May form combustible dust concentrations in air

3. Composition / information on ingredients

Components	CAS No.	Weight %
2-Propenoic acid, (2,3,4,5,6-bromophenyl)methyl ester, homopolymer	59447-57-3	>=99
Chlorobenzene	108-90-7	<1

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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 reuse. Get medical attention if irritation occurs.
Inhalation	Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately. In case of inhalation, remove person to fresh air.
Ingestion	If swallowed, wash mouth thoroughly with plenty of water. Get medical attention immediately.
	----- NOTE: Never give an unconscious person anything to drink -----

Most important symptoms and effects, acute or delayed

None known

Notes to the physician	No specific antidote. Treat symptomatically and supportively. In case of ingestion induce vomiting in alert patient.
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5. Fire - fighting measures

Suitable extinguishing media	Carbon dioxide, dry chemicals, foam, water spray (fog).
Extinguishing media not to be used	Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
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.
Fire fighting procedure	Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) in positive pressure mode.

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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 reuse. Ventilate area and wash spill site after material pickup is complete.
Environmental precautions	No special environmental precautions required

7. Handling and storage

Handling	Avoid bodily contact. Keep containers tightly closed.
Storage	Keep in a well-ventilated place

8. Exposure controls / personal protection

Exposure Limits :

Components	ACGIH-TLV Data	Korea OEL	OSHA (PEL) Data
2-Propenoic acid, (2,3,4,5,6-bromophenyl)methyl ester, homopolymer 59447-57-3	Not determined	Not determined	Not determined
Chlorobenzene 108-90-7	10 ppm, A3	Carcinogen category: 2 TWA is: 10 ppm. STEL is: 20 ppm	75 ppm, 350 mg/m ³ .

Ventilation requirements	Ventilation must be sufficient to maintain atmospheric concentration below exposure limit.
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Personal protective equipment:

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|----------------------------|---------------------------------|
| - Respiratory protection | Dust respirator. |
| - Hand protection | Protective gloves. |
| - Eye protection | Chemical safety goggles |
| - Skin and body protection | Body covering clothes and boots |

Hygiene measures	Do not eat, smoke or drink where material is handled, processed or stored. Wash hands thoroughly after handling and before eating or smoking. Safety shower and eye bath should be provided.
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9. Physical and chemical properties

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

10. Stability and reactivity

Reactivity	No reactive hazards known/expected.
Stability	Stable under normal conditions
Possibility of hazardous reactions	Not expected to occur
Conditions to avoid	Heating above decomposition temperature.
Materials to avoid	None known
Hazardous decomposition products	Hydrogen bromide.

11. Toxicological information

Acute toxicity:

- Rat oral LD50	> 5,000 mg/kg
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Skin corrosion/irritation	Not irritant
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Serious eye damage/ irritation	Minimal irritant. Does not meet classification criteria.
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Respiratory or skin sensitisation Not a sensitizer

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

Carcinogenicity Not classified by IARC
Not included in NTP 14th Report on Carcinogens

Reproductive toxicity No data available

Developmental toxicity No data available

Chronic toxicity Not available

Specific Target Organ Toxicity (STOT) - Single exposure No data available

Specific Target Organ Toxicity (STOT) - Repeat exposure No data available

Aspiration hazard Not expected to occur

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

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

Disposal of Packaging Dispose of in a safe manner in accordance with local/national regulations.

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14. Transportation information

DOT	Not regulated
IMDG	Not regulated
ICAO/IATA	Not regulated

15. Regulatory information

USA	Reported in the EPA TSCA Inventory.
Clean Water Act	Subject to Section 311, Hazardous Substances (Chlorobenzene)
CERCLA/SARA - 302 Extremely Hazardous Substances	This material contains hazardous substance as defined by CERCLA (40 CFR 302.4) and the reportable quantity (RQ) is: 100 lbs .
- SARA 313	This product does not contain a chemical listed at or above de minimis concentrations
EPCRA (SARA title III)	This product does not contain a chemical listed at or above de minimis concentrations.
- Massachusetts Right-to-Know Hazardous Substances list	Listed (Chlorobenzene)
- New York City, Community Right-to-Know Hazardous Substance List	Listed (Chlorobenzene)
- New Jersey Right-to-Know Hazardous Substances list	Listed (Chlorobenzene)
- Pennsylvania Right-to-Know Hazardous Substances list	Listed (Chlorobenzene)
- Rhode Island Right-to-Know Hazardous Substances list	Listed (Chlorobenzene)
Canada	Listed in DSL
EU	This product is a polymer. The monomer is reported in EINECS (No. 2617677)

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Australia	Listed in AICS
China - China inventory	Listed in IECSC
Japan	ENCS no. 6-1671 ISHL no. 9-826
Korea	Listed in the Korea Existing Chemicals Inventory (KECI), number 28933
New Zealand Inventory	Listed in NZIoC
Philippines	Listed in PICCS
Taiwan	Listed (TCSI)

16. Other information

This data sheet contains changes from the previous version in section(s)
3, 8, 15 (US)

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End of safety data sheet