MATERIAL SAFETY DATA SHEET

EXPANDABLE POLYSTYRENE -MOULDING BEAD -REGULAR GRADE

POLY SOURCE, INC.
555 E Statler Rd.
Piqua, Ohio 45356 USA

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to the employees, customers, and users of this product
This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accord with the MSDS requirements of this rule

1. General

Trade name **HiRez**

TELEPHONE NUMBERS:
EMERGENCY
800-424-9300 (Chemtrec)
Customer Service
937-778-9500 Information only

OTHER COMPANY NAMES:	PSI-265, PSI-265EX, PSI-265LR, PSI-265LS, PSI-665T
Synonyms	**Hi-Impact Expandable Polystyrene Bead**
Other Industry Names	**Expandable Polystyrene, Foam Polystyrene, Styrofoam**

Chemical Family	**Expandable Polymers**	DOT Hazardous Materials Proper shipping name Polymeric Beads, Expandable, evolving flammable vapor	
Generic Name	**Expandable Polystyrene**	DOT Hazard Class **9 (misc. haz. material)**	**DOT Reportable Quantity** **N/AP**

CAS No. (See section 9 components) **ACC Material ID** BE137 **UN/NA ID. No.** UN 2211

2. Summary of Hazards

Signal Word	DANGER
Physical Hazards	Extremely flammable (Based on blowing agent)
Acute Health Effects	Slight Inhalation hazard (Based on blowing agent)
(Short Term)	Slight eye irritant(based on blowing agent) No data found: no expected ingestion hazard Slight skin irritant (Based on blowing agent) No data found: no expected skin absorption hazard
Chronic Health Effects (long term)	No appropriate human or animal data are known to exist on adverse chronic health effects from repeated or prolonged exposure to this material.

3. Fire and Explosion

FLASH POINT	**AUTO IGNITION TEMPERATURE**	**FLAMMABLE LIMITS**
AP-59ºF (TCC)	AP 500ºF (Based on Blowing Agent)(Based on Blowing Agent)	(At normal Atmospheric Temp and Pressure Lower: AP 1.4 (% vol in air) Upper: AP 8.3 (% vol in air) Based on Pentane (Blowing Agent)

Fire and Explosion Hazards When container is opened/broken, flammable vapor is released which is heavier than air/can travel long distance along the ground before igniting and flash back to vapor source. Assure good ventilation to prevent flammable vapor formation. When material is handled static charge is generated which cannot be completely dissipated due to insulating property, causing spark/ignition /explosion.

Extinguishing Media
CO2
Dry Chemical
Foam
Water Spray
Water
Water Fog

Special Firefighting Procedures Do not enter area without proper protection. Fight fire from a safe distance/protected location. Beads can result in dangerous walking condition on smooth hard surface/interfere with firefighting unless covered over. For large fire, use substantial amount of water as straight stream to 'dig' into hot molten mass from outside to open and cool interior/prevent re-ignition.. Intermittent fog application will provide surface cooling/protection of firefighters. Produces dense black smoke when burning, obscuring vision.

***FOR DISCLAIMER OF LIABILITY SEE THE STATEMENT ON FINAL PAGE**

4. Health Hazards

Summary Of Acute Hazards: Slight health hazard

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS	PRIMARY ROUTE(S)
Inhalation	Prolonged overexposure may cause coughing, shortness of breath, dizziness and intoxication	Yes
Eye Contact	May cause minor eye irritation.	Yes
Skin Absorption	No significant signs or symptoms indicative of any health hazards are expected to occur as a result of skin absorption exposure.	Yes
Skin Irritation	May produce skin irritation	Yes
Ingestion	No significant signs or symptoms indicative of any adverse health hazard are expected to as a result of ingestion	No

Summary of Chronic Hazards: No appropriate human or animal data are available on the chronic health effects from prolonged or repeated exposure to this material.

Special Health Effects: No additional medical information found.

5. Protective Equipment and Other Control Measures

Respiratory: If exposure exceeds the PEL/TLV, use NIOSH/OSHA approved respiratory equipment as specified in the NIOSH/OSHA 1981 Occupational Health Guidelines for Chemical Hazards.

Eye: Safety Glasses with side guards should be worn to prevent injury from flying particles and/or other eye contact with this product.

Skin: Depending on the conditions of use, protective gloves, aprons, boots, head, and face protection should be worn. The equipment must be cleaned thoroughly after each use.

Engineering Controls: Both local exhaust and good general room ventilation must be provided not only to control exposure but also to prevent formation of flammable mixtures.

Other Hygienic Practices: Non-static creating clothing and conductive shoes should be worn.

Other Work Practices: Material spilled on hard surface can be a serious slipping/falling hazard. Use care in walking on spilled material. Spread coarse, inert granular cover such as sand, on any affected walking surface.

6. Occupational Exposure Limits

Substance	Source	Date	Type	Value/Units	Time	Skin
Nuisance Particulates	ACGIH	1992	TWA	10Mg/M^3	8 hrs	No
Particulates not Otherwise Regulated (Total Dust)	OSHA	1989	TWA	15Mg/M^3	8 hrs	No
Particulates not Otherwise Regulated (Respirable Fraction)	OSHA	1989	TWA	5 Mg/M^3	8 hrs	No
Pentane blend	ACGIH	1992	TWA	600 PPM	8 hrs	No
			STEL	750 PPM	15 MIN	No
	OSHA	1989	TWA	500 PPM	8 HRS	No
			STEL	750 PPM	15 MIN	NO

Industrial Hygiene Comments: No additional Occupational Exposure Limit Information Available

7. Emergency and First Aid

Inhalation: Remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain medical attention. Prompt action is essential.

Eye Contact: In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention if pain, blinking, tears or redness persist.

Skin Contact: Wash skin thoroughly with soap and water. If sticky use waterless hand cleaner first.

Ingestion: Ingestion is unlikely, however, if ingested obtain emergency medical attention.

Emergency Medical Treatment Procedures: Treat Symptomatically.

Detoxification Procedures: After adequate first aid, no further treatment is required unless symptoms reappear.

8. Spill and Disposal

Precautions if Material is Spilled or Released
Spill releases flammable vapors. Kill ignition sources/ventilate confined spaces before entering. Creates dangerous hazard on any hard surface. Spread granular cover on walkways or provide open grating flooring(or equivalent). Provide cleanup crew with proper protective equipment. Prevent flow to low areas. Flammable vapors heavier than air can accumulate. On land, vacuum/shovel into suitable disposal containers. Minimize static sparks/avoid flash fire. Recovered solids can release flammable vapors for extended time. Keep container tightly closed when not in use. Report per regulatory requirements.

Waste Disposal Methods
Always recycle if possible, otherwise landfill solids at permitted sites. Comply with applicable regulations for solid waste disposal Solids may also be burned. If mixed/fired with supplemental fuel. Vapors generated from solids can lower flash point of solid fuel mixture. Avoid flameout's. Assure emissions comply with applicable regulations. Contaminated product, soil or water should be considered dangerous due to potential evolution of flammable vapor.

9. Components

(This may not be a complete list of components.) (Compositions are typical values not specifications)

Component	CAS No.	Composition Amt.	(%=wt./wt.)	Carcinogen ###
Polystyrene (impact)	9003-55-8	85 to 90%	N/P	
Styrene-Butadiene Copolymer *	9003-55-8	3%	N/P	
*Polystyrene *impact*(9003-55-8) & Manufacture Trade Secret				
Isopentane	78-78-4	3.5 to 7% Individually or	N/P	
N-pentane	109-66-0	3.5 to 7% Individually or	N/P	
Iso/N pentane blend	mixture	3.5 to 7%	N/P	
Black Color Concentrate *	mixture	.5 to 10%	N/P	
*Polystyrene(9003-53-6) & Carbon Black(1333-86-4)				

1 = National Toxicology Program

10. Component Health Hazards

Component	Component Health Hazards	
Polystyrene	No Significant Hazards	
Pentane blend	Moderate eye irritant	Aspiration hazard

11. Additional Toxicological information

Component Name/Comments
No additional Toxicology Information is available for the components of this material.

Material
No additional toxicology information is available for this material

12. Physical and Chemical Data

Boiling Point N/AP	**Viscosity** N/AP	**Dry Point** N/AP	**Freezing Point** N/AP
Vapor Pressure AP 600 PSIA (at 70°F)	**Volatile Characteristics** Slight	**Specific Gravity** AP .94 (H_2O = 1.0 at 39.2°F)	**Solubility in water** Negligible (less than 1%)
Vapor Specific Gravity AP 2.5 (Air = 1.0 at 60-90°F)	**pH** N/AP	**Hazardous Polymerization** Not expected to occur	**Stability** Stable

Other Chemical Reactivity	No additional information available
Other Physical and Chemical Properties	No additional information available
Appearance and odor	Solvent odor, Cylindrical Shaped
Conditions to Avoid	Heat, Sparks, Open flame, Other ignition sources, and oxidizing conditions.
Materials to avoid	Strong Oxidizing Agents. Hydrocarbons
Hazardous Decomposition Products	Incomplete combustion may produce carbon monoxide and other toxic gases

13. Hazard Rating Information

National Fire Protection Association
No hazards rating information is available for this system

National Paint and Coatings Association

Hazardous Materials Information System (HMIS)
No hazards rating information is available for this system

14. Additional Precautions

Handling and Storage Procedures
Transport/Store only in sealed full containers below 27°C/80°F in well-Ventilated areas away from all ignition sources. Open in preparation for use only. Allow 10 minutes after opening original container for excess flammable vapor to dissipate before moving to processing area where heat sources exist. When part full containers must be used, blow air across open top for 5 minutes before moving to process area to prevent formation of flammable vapor. Provide good ventilation in use area to prevent flammable vapor accumulation. All equipment must conform to applicable electrical code. Clean up any spills as soon as possible. Beads are extremely slippery on any hard smooth surface/cause serious slipping/falling hazard.

Decontamination Procedures
Follow standard plant procedures or supervisor's instructions for decontamination operations.

15. Regulatory Information

Federal:

Toxic Substance Control Act (TSCA)
The following is the TSCA Chemical Substance Inventory Status of the components of this material with CAS numbers listed in Section 9- Components

CHEMICAL	CAS NO.	STATUS
Polystyrene	9003-53-6	Listed - Non Confidential
Isopentane	78-78-4	Listed - Non Confidential
N-pentane	109-66-0	Listed – Non Confidential

Superfund Amendments and Reauthorization Act of 1988 (SARA), Title III

- Section 302/304

Requires emergency planning based on Threshold Planning Quantities (TPQs), and release reporting based on reportable quantities (RQS) of "Extremely Hazardous Substances" (EHS) listed in appendix a of 40 CFR 355. There are no components of this material with known CAS numbers which are on the EHS list.

-Section 311 & 312

Based upon available information, this material and/or components are classified as the following health and/or physical hazards according to section 311 & 312:

Fire Hazard

-Section 313

This material does not contain any chemical components with known CAS numbers that exceed the De Minimis reporting levels established by SARA Title III, Section 313 and 40 CFR 372.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA.

OSHA Regulations

Chemical-specific OSHA regulations (1910.1002 to 1910.1050) presented under 29 CFR 1910 do not apply to this material or its components.

Other EPA Regulations
No additional information available

Department of Transportation (DOT)
Other than the normal shipping instruction given in this MSDS, there are no other specific DOT regulations governing the shipment of this material.

STATE REGULATIONS

California Safe Drinking Water and Toxic Enforcement Act of 1988 - Proposition 65

This material may contain trace amounts of a chemical listed by the State of California as known to the state to cause cancer, reproductive toxicity or both.

California South Coast Air Quality Management District (SCAQMD) Rule 443.1 (VOC's)

A Volatile Organic Compound (VOC) is any volatile compound of carbon excluding methane, carbon monoxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, 1,1,1-trichlorothane, methyl chloride, (FC-23). (CFC-113), (CFC-12),)CFC-22), (CFC-114), and (CFC-115). By this definition, this is not a VOC material.

Massachusetts Right-to-Know Substance List(MSL) (105-CMF670.000)

Hazardous Substances (MSL-HS) on the MSL must be identified when present in materials at levels greater than state specified criterion. The criterion is >=1%. Components with CAS numbers present in this material at a level which could require reporting under the statute are;

Isopentane **78-78-4**
N-pentane **109-66-0**

Extraordinary Hazardous Substances (MSL-EHS) on the MSL must be identified when present in materials at levels greater than state specified criterion. The criterion is >=0.0001%. Components with CAS numbers present in this material, at levels specified in section 9 - Components, do not require reporting under the statute.

15. Regulatory Information (Cont'd)

New Jersey Registration

The New Jersey, Registry 3, Registration law does not apply to this material, as none of its components are trade secrets.

Pennsylvania Right-to-Know Hazardous Substances Lists.

Hazardous Substances (PA-HS) must be identified when present in materials at levels greater than the state specified criterion. The criterion is >=1% Components with CAS numbers in this material at a level which could require reporting under the statute are "

CHEMICAL	CAS NO.
Isopentane	78-78-4
N-pentane	109-66-0

Special Hazardous Substances(PA-SHS) must be identified when present in materials at levels greater that the state specified criterion. The criterion is >= 0.01% . Environmental Hazards(PA-EH)must be identified when present in materials at levels greater than the state specified criterion. The criterion is >=0.01%. Components with CAS numbers in this material at levels specified in Section 9 - Components, do not require reporting under the statute.

Regulatory Advisory
If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in Section 9, based on the final composition of your product.

16. Label Information

Manufacturer:

Polysource Inc.
555 E Statler Rd
Piqua, Ohio 45356 USA

TELEPHONE NUMBERS:
EMERGENCY
800-424-9300 (Chemtrec)
Customer Service
937-778-9500 Information only

Other Company Names **HiRez**
Hi-Impact Black Expandable Polystyrene Bead

Signal word: Danger

Use Statement
For Industrial use only
Keep out of the reach of Children

Physical Hazards
Extremely Flammable (based on blowing agent)

Health Hazards:
Eye irritant (based on blowing agent)
Skin irritant (based on blowing agent)
Inhalation hazard (based on blowing agent)

Precautionary Measures:
Do not handle near heat , sparks, or open flame
Do not store near combustible materials.
Avoid contact with eyes.
Avoid prolonged or repeated breathing of gases, vapors, or mists.
Avoid prolonged or repeated contact with skin.
Use with adequate ventilation.
Wash thoroughly with soap and water after contact.
Do not take internally.
Keep container tightly closed when not in use.

DOT Information:
UN/NA ID NO. UN 2211 **DOT Hazard Class:** 9 (Misc. hazardous materials) **DOT Reportable quantity** NAP

DOT Hazardous materials proper shipping name: Polymeric Beads, Expandable, Evolving Flammable Vapor

COMPONENT NAME	**CAS NO.**	**COMPOSITION AMOUNT (%=wt./wt.)**	**RQ.**
polystyrene	9003-53-6	90 – 93%	N/AP
Isopentane	78-78-4	3.5 to 7%	N/AP
N-pentane	**109-66-0**	**3.5 to 7%**	**N/AP**

INSTRUCTIONS: **IN CASE OF FIRE, USE** CO_2, DRY CHEMICAL, FOAM, WATER SPRAY, WATER, WATER FOG.

FIRST AID:

INHALATION Remove victim to fresh air immediately, Give artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact In case of eye contact , immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain Emergency medical attention if pain, blinking, tears, or redness persists.

Skin contact Remove contaminated shoes or clothes, Wash skin thoroughly with soap and water. Flush with lukewarm water for 15 mounts. If sticky use waterless hand cleaner first.

Ingestion Ingestion unlikely. However if ingested, Obtain Emergency Medical attention.

IN CASE OF SPILL: Spill releases flammable vapors. Extinguish all ignition sources/ventilate confined spaces before entering. Minimize static sparks/avoid flash fires. Spread granular cover on walkways or provide open grating flooring (or equivalent) On land, vacuum/shovel into suitable disposal containers. On water, solids float. Recovered solids can release flammable vapors for extended time. Report per regulatory requirements.

PROTECTIVE EQUIPMENT:

Respiratory: Use only NIOSH/MSHA approved respiratory protection equipment per 1981 NIOSH/OSHA Guidelines for chemical hazards
Eye Safety glasses with side shields should be worn to prevent injury from flying particles and/or other eye contact with this product.
Skin Clothing such as gloves, apron, sleeves, boots, and full head/face protection appropriate to conditions of use should be worn.

17. General Comments

General Comments
No additional information available

Other Comments
Some of the information presented and conclusions drawn herein are from sources other than direct test data on the material itself

Note
Qualifications:

EQ = Equal	AP = Approximately	N/P = No Applicable Information Found.
LT = Less Than	UK = Unknown	N/AP = Not Applicable
GT = Greater Than	TR = Trace	N/DA = No Data Available

The information in the MSDS was obtained from sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.**

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.**

This MSDS was prepared and is to be used only for this product.
If the product is used as a component in another product, this MSDS information may not be applicable

PRODUCT CODE PSI-265	ISSUED 01/2008	PREPARED BY POLYSOURCE, INC.