

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product name. : PSI Standard Colored EPS  
Product code : PSI 100 through 1000  
Other means of identification : Polymeric Beads (expandable, evolving flammable vapor), Colored Expandable Bead, EPS, Expandable Polystyrene, Color Bead, Foam Polystyrene, Styrofoam

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

Use of the substance/preparation : Manufacturing

### 1.3. Details of the supplier of the safety data sheet

Polysource, Inc  
555 E. Statler Road  
Piqua, OH 45356  
T 937-778-9500

### 1.4. Emergency telephone number

Emergency number : Chemtrec 1 800 424 9300

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### GHS-US classification

STOT SE 3 H336  
STOT SE 3 H335

### 2.2. Label elements

#### GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H335 - May cause respiratory irritation  
H336 - May cause drowsiness or dizziness

Precautionary statements (GHS-US) :

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P271 - Use only outdoors or in a well-ventilated area  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P312 - Call a POISON CENTER/doctor/.../if you feel unwell  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up  
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

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### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Polystyrene	(CAS No.) 9003-53-6	90 - 93	Not classified
Pentane	(CAS No.) 109-66-0	3.5 - 7	Flam. Liq. 2, H225 STOT SE 3, H336 Asp. Tox. 1, H304
Isopentane	(CAS No.) 78-78-4	3.5 - 7	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304
Color Concentrate	Varied	<6	Not classified

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- First-aid measures after skin contact : Remove contaminated shoes or clothes. Wash skin thoroughly with soap and water. If sticky, use waterless hand cleaner first.
- First-aid measures after eye contact : Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention if discomfort persists.
- First-aid measures after ingestion : Seek medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Water fog, carbon dioxide, or dry chemical.
- Unsuitable extinguishing media : None.

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

- Fire hazard : Spill releases flammable vapors.
- Explosion hazard : None known.
- Reactivity : Stable at ambient temperature and under normal conditions of use.

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### 5.3. Advice for firefighters

- Firefighting instructions : 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.
- Protection during firefighting : Firefighters should wear full protective gear.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid breathing vapors.

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

None.

### 6.3. Methods and material for containment and cleaning up

- For containment : Isolate spill area and provide ventilation.
- Methods for cleaning up : 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.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Allow 10 minutes after opening original container for excess flammable vapor to dissipate before moving to processing area where heat sources exist. 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. Loose beads on hard surfaces can create a slip hazard.

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

- Storage conditions : Transport/Store only in sealed containers below 27C/80F in well-ventilated areas away from all ignition sources.

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### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>Pentane (109-66-0)</b>		
USA ACGIH	ACGIH TWA (ppm)	600 ppm
USA IDLH	US IDLH (ppm)	1500 ppm (10% LEL)
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	120 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (ceiling) (ppm)	610 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2950 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

  

<b>Isopentane (78-78-4)</b>		
USA ACGIH	ACGIH TWA (ppm)	600 ppm

### 8.2. Exposure controls

Appropriate 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.
Hand protection	: Wear impervious gloves to minimize skin contact.
Eye protection	: Safety glasses.
Skin and body protection	: Wear suitable working clothes.
Respiratory protection	: If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Cylindrically or Spherically shaped.
Colour	: Various.
Odour	: Solvent.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available

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Freezing point	: No data available
Boiling point	: No data available
Flash point	: AP -59 °F
Self ignition temperature	: AP 500 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 600 PSIA (at 70°F)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Negligible.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1.4 - 8.3 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable at ambient temperature and under normal conditions of use.

### 10.2. Chemical stability

The product is stable at normal handling- and storage conditions.

### 10.3. Possibility of hazardous reactions

Will not occur.

### 10.4. Conditions to avoid

Heat, flames, and other ignition sources.

### 10.5. Incompatible materials

Strong oxidizing agents.

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### 10.6. Hazardous decomposition products

Oxides of carbon.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>Pentane (109-66-0)</b>	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (mg/l)	364 g/m <sup>3</sup> (Exposure time: 4 h)

<b>Isopentane (78-78-4)</b>	
LC50 inhalation rat (mg/l)	280000 mg/m <sup>3</sup> (Exposure time: 4 h)

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

<b>Polystyrene (9003-53-6)</b>	
IARC group	3

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness. May cause respiratory irritation.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Pentane (109-66-0)</b>	
LC50 fish 1	9.87 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	11.59 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

<b>Isopentane (78-78-4)</b>	
EC50 Daphnia 1	2.3 mg/l (Exposure time: 48 h - Species: Daphnia magna)

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

<b>Pentane (109-66-0)</b>	
Log Pow	3.39

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<b>Isopentane (78-78-4)</b>	
Log Pow	3.2 - 3.3

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations.

## SECTION 14: Transport information

In accordance with DOT / ADR / RID / ADNR / IMDG / ICAO / IATA

### 14.1. UN number

UN 2211

### 14.2. UN proper shipping name

DOT Proper Shipping Name : Polymeric beads, expandable  
evolving flammable vapor

Department of Transportation (DOT) Hazard Classes : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Hazard labels (DOT) : 9 - Miscellaneous dangerous compounds



Packing group (DOT) : III - Minor Danger

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DOT Special Provisions (49 CFR 172.102) : 32 - Polymeric beads and molding compounds may be made from polystyrene, poly(methyl methacrylate) or other polymeric material.  
IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).  
IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.  
IP7 - For UN identification numbers 1327, 1363, 1364, 1365, 1386, 1841, 2211, 2217, 2793 and 3314, IBCs are not required to meet the IBC performance tests specified in part 178, subpart N of this subchapter.  
T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)  
TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx) : 155

DOT Packaging Non Bulk (49 CFR 173.xxx) : 221

DOT Packaging Bulk (49 CFR 173.xxx) : 221

### 14.3 Additional information

Other information : No supplementary information available.

### Overland transport

No additional information available

### Transport by sea

DOT Vessel Stowage Location : E - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other : 19 - Protect from sparks and open flames, 21 - Segregation same as for flammable liquids, 25 - Shade from radiant heat, 85 - Under deck stowage must be in mechanically ventilated space, 87 - Stow "separated from" Class 1 (explosives) except Division 14



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### Air transport

DOT Quantity Limitations Passenger : 100 kg  
aircraft/rail (49 CFR 173.27)

DOT Quantity Limitations Cargo : 200 kg  
aircraft only (49 CFR 175.75)

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Polystyrene (9003-53-6)

United States TSCA (Toxic Substances Control Act) inventory: Listed  
EPCRA/SARA Sections 311, 312 Hazard categories: Fire Hazard  
EPCRA/SARA Sections 301, 302, 303, 304: Not Regulated  
EPCRA/SARA Section 313 (TRI Reporting): Chemical Category N982 - Zinc Compounds (above *de minimis* conc.)  
Clean Air Act Section 112/112(r): Not regulated

#### Pentane (109-66-0)

United States TSCA (Toxic Substances Control Act) inventory: Listed  
EPCRA/SARA Sections 311, 312 Hazard categories: Fire Hazard  
EPCRA/SARA Sections 301, 302, 303, 304: Not Regulated  
EPCRA/SARA Section 313 (TRI Reporting): Not regulated  
Clean Air Act Section 112(r): Regulated

EPA TSCA Regulatory Flag

T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.

#### Isopentane (78-78-4)

United States TSCA (Toxic Substances Control Act) inventory: Listed  
EPCRA/SARA Sections 311, 312 Hazard categories: Fire Hazard  
EPCRA/SARA Sections 301, 302, 303, 304: Not Regulated  
EPCRA/SARA Section 313 (TRI Reporting): Not regulated  
Clean Air Act Section 112(r): Regulated

### 15.2. US State regulations

#### Pentane (109-66-0)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - Right to Know List

#### Isopentane (78-78-4)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - Right to Know List

## SECTION 16: Other information

Full text of R-, H- and EUH-phrases::

Asp. Tox. 1	Aspiration hazard Category 1
Flam. Liq. 1	Flammable liquids Category 1

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Flam. Liq. 2	Flammable liquids Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H224	Extremely flammable liquid and vapour
H225	Highly flammable liquid and vapour
H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*