



Star-R-Foam

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **Star-R-Foam**

**Product Code(s)** : STARR001

**Recommended use of the chemical and restrictions on use**

: Insulation materials, Industrial use, Consumer use. packaging.  
Recommended restrictions: None known.

**Chemical family** : Article- Foam in its finished form.  
Molded EPS and GPS Products

**Name, address, and telephone number of the supplier:**

**StarRfoam Mfg. Inc.**

3220 Avenue F  
Arlington, TX,  
76011

Supplier's Telephone # : (817) 654-4688

**24 Hr. Emergency Tel #** : (800) 424-3900 - for transportation emergencies  
(703) 527-3887 - for international shipments

**Name, address, and telephone number of the manufacturer:**

Refer to supplier

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Article: Solid physical state. White, rigid cellular foam blocks, sheets, panels, or forms. Prior to aging, it has a slight hydrocarbon odor. None present after aging.

This product is considered to be a 'manufactured article'. This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

**Label elements**

*Hazard pictogram(s)*

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

*Signal Word*

None required.

*Hazard statement(s)*

None required.

*Precautionary statement(s)*

None required.

**Other hazards**

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Dust may irritate eyes and the respiratory system.



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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Article: Solid physical state. White, rigid cellular foam blocks, sheets, panels, or forms.

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
<b>Polystyrene</b>	Ethenylbenzene homopolymer; Styrene homopolymer	9003-53-6	>99
<b>Pentane</b>	Amyl hydride	109-66-0	<2
<b>Hexabromocyclododecane</b>	1,2,5,6,9,10-Hexabromocyclodo decane	3194-55-6	<1
<b>Polymeric Film</b>	Not available.	Not applicable.	<b>1.0 - 3.0</b>

Note: \*Flammable blowing agent that off-gases from product, yet EPA document 540/3-90-020 states that 85% of the pentane is emitted within 48 hours of the start of the expansion process in the factory, with the remainder emitted over time. Considering the manufacturer's curing process, the vast majority of the 15% remainder of the pentane should be emitted prior to shipment, with the remainder being emitted during subsequent shipment, storage, and usage.

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Harmful effects are not expected under normal usage. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed: Call a poison center/doctor if you feel unwell.
- Inhalation* : Harmful effects are not expected under normal usage. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin contact* : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention.
- Eye contact* : For eye contact, flush with running water for at least 15 minutes. If eye irritation persists: get medical advice/attention.

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

- : Dust may irritate eyes and the respiratory system.

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

- : Treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

- Suitable extinguishing media* : Carbon dioxide (CO2); Dry chemical; Alcohol resistant foam; Water fog
- Unsuitable extinguishing media* : Do not use a solid water stream as it may scatter and spread fire.

#### Special hazards arising from the substance or mixture / Conditions of flammability

- : Burning produces obnoxious and toxic fumes. Freshly expanded or heated foam may off-gas pentane, which can accumulate at hazardous concentrations above the Lower Flammable Limit (LFL) if stored in closed containers or confined areas. Electrostatic discharge can be a source of ignition of accumulated pentane vapors. Assure proper ventilation of storage or shipping containers to prevent accumulation of hazardous concentrations of off-gassed pentane.

#### Flammability classification (OSHA 29 CFR 1910.106)

- : Non-flammable.

#### Hazardous combustion products

- : Carbon oxides, Aldehydes .

#### Special protective equipment and precautions for firefighters

*Protective equipment for fire-fighters*



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: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

*Special fire-fighting procedures*

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

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

: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

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

: Ventilate the area. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

**Special spill response procedures**

: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

### SECTION 7. HANDLING AND STORAGE

**Precautions for safe handling**

: Avoid dust formation. Use personal protective equipment as required. Keep away from heat, open flames and hot surfaces. - No smoking.

**Conditions for safe storage** : Store in a well-ventilated place. Vapours are heavier than air and collect in confined and low-lying areas. Keep material dry and protected from the elements. Storage temperatures should not exceed 170°F.

**Incompatible materials** : Strong oxidizing agents, Esters, Amines, Aldehydes.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Exposure Limits:</b>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Polystyrene	10 mg/m <sup>3</sup> inhalable; 3mg/m <sup>3</sup> Respirable dust	N/Av	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> Respirable dust	N/Av
Pentane	1000 ppm (listed under Pentane, all isomers)	N/Av	1000 ppm (2950 mg/m <sup>3</sup> )	N/Av
Hexabromocyclododecane	N/Av	N/Av	N/Av	N/Av
Polymeric Film	N/Av	N/Av	N/Av	N/Av



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### Exposure controls

#### Ventilation and engineering measures

: None required under normal conditions.

#### Respiratory protection

: None required when used as intended.

#### Skin protection

: Wear protective gloves. Advice should be sought from glove suppliers.

#### Eye / face protection

: Wear safety goggles or glasses as appropriate for the job.

#### Other protective equipment

: None required when used as intended.

#### General hygiene considerations

: Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance

: Solid physical state. White, rigid cellular foam blocks, sheets, panels, or forms.

#### Odour

: Prior to aging, slight hydrocarbon odor. None present after aging.

#### Odour threshold

: No information available.

#### pH

: Not applicable.

#### Melting/Freezing point

: Softening point: 180°F

#### Initial boiling point and boiling range

: N/Av

#### Flash point

: 610°F

#### Flashpoint (Method)

: ASTM D-1929

#### Evaporation rate (BuAe = 1)

: N/Av

#### Flammability (solid, gas)

: Not applicable.

#### Lower flammable limit (% by vol.)

: Not applicable.

#### Upper flammable limit (% by vol.)

: Not applicable.

#### Oxidizing properties

: None known.

#### Explosive properties

: Not explosive

#### Vapour pressure

: N/Av

#### Vapour density

: N/Av

#### Relative density / Specific gravity

: 0.7-2.5 pounds per cubic foot

#### Solubility in water

: Insoluble.

#### Other solubility(ies)

: No information available.

#### Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: No information available.

#### Auto-ignition temperature

: 850°F

#### Decomposition temperature

: No information available.

#### Viscosity

: Not applicable.

#### Volatiles (% by weight)

: N/Av

#### Volatile organic Compounds (VOC's)

: Pentane

EPS manufacturing uses beads as a raw material, and EPS beads typically contain 4%-7% pentane by weight, which is defined as a VOC by the EPA. EPA document 540/3-90-020 states that 85% of the pentane contained in the EPS bead is emitted within 48 hours starting with the expansion process (which occurs within the manufacturing facility). The remaining pentane is released over time. There is likely negligible pentane content in the foam by the time of installation.

#### Absolute pressure of container

: Not applicable.

#### Flame projection length

: Not applicable.

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**Other physical/chemical comments**

: None known or reported by the manufacturer.

**SECTION 10. STABILITY AND REACTIVITY**

**Reactivity** : Not normally reactive.

**Chemical stability** : Stable under normal conditions.

**Possibility of hazardous reactions**

: Hazardous polymerization does not occur.

**Conditions to avoid** : None reported by the manufacturer.

**Incompatible materials** : See Section 7 (Handling and Storage) for further details.

**Hazardous decomposition products**

: See Section 5 (Fire Fighting Measures).

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure:**

**Routes of entry inhalation** : YES

**Routes of entry skin & eye** : YES

**Routes of entry Ingestion** : YES

**Routes of exposure skin absorption**  
 : YES

**Potential Health Effects:**

**Signs and symptoms of short-term (acute) exposure**

*Sign and symptoms Inhalation*

: Inhalation of dust or fumes may cause irritation of the nose, throat and upper respiratory tract.

*Sign and symptoms ingestion*

: Harmful effects are not expected under normal usage.

*Sign and symptoms skin*

: Harmful effects are not expected under normal usage.

*Sign and symptoms eyes*

: Dust contact with the eyes can lead to mechanical irritation.

**Potential Chronic Health Effects**

: None expected, when used as intended.

**Mutagenicity**

: Not expected to be mutagenic in humans.

**Carcinogenicity**

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

**Reproductive effects & Teratogenicity**

: Not expected to cause reproductive effects.

**Sensitization to material**

: Not expected to be a skin or respiratory sensitizer.

**Specific target organ effects** : None expected, when used as intended.

**Medical conditions aggravated by overexposure**

: Pre-existing skin, eye and respiratory disorders.

**Synergistic materials**

: No information available.

**Toxicological data**

: No data is available on the product itself.

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<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u> <u>inh, rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Polystyrene	N/Av	N/Av	N/Av
Pentane	> 6106 ppm (18 mg/L) (vapour) (No mortality)	> 2000 mg/kg (No mortality)	> 3000 mg/kg
Hexabromocyclododecane	N/Av	>10 g/kg	N/Av
Polymeric Film	N/Av	N/Av	N/Av

**Other important toxicological hazards**

: None reported by the manufacturer.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity** : The product itself has not been tested. Avoid release to the environment.

**Ecotoxicity data:**

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Polystyrene	9003-53-6	N/Av	N/Av	None.
Pentane	109-66-0	4.26 mg/L (Rainbow trout)	6.165 mg/L/28-day (QSAR)	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Polystyrene	9003-53-6	N/Av	N/Av	None.
Pentane	109-66-0	2.7 mg/L (Daphnia magna)	10.76 mg/L (QSAR)	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Polystyrene	9003-53-6	N/Av	N/Av	None.
Pentane	109-66-0	7.5 mg/L/72hr (Green algae)	2.0 mg/L/72hr	None.

**Persistence and degradability**

: Not expected to be rapidly biodegradable.

**Bioaccumulation potential**

: No data is available on the product itself.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Pentane (CAS 109-66-0)	3.45	171 (Fathead minnow)

**Mobility in soil**

: The product itself has not been tested.

**Other Adverse Environmental effects**

: None known.

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**SECTION 13. DISPOSAL CONSIDERATIONS**

- Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

**SECTION 14. TRANSPORT INFORMATION**

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	None.	Not regulated.	not regulated	none	
<b>TDG Additional information</b>	None.				

- Special precautions for user** : Appropriate advice on safety must accompany the package.
- Environmental hazards** : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : This information is not available.

**SECTION 15 - REGULATORY INFORMATION**

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity (RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Polystyrene	9003-53-6	Yes	N/Ap	N/Av	No	N/Ap
Pentane	109-66-0	Yes	None.	None.	No	N/Ap
Hexabromocyclododecane	3194-55-6	Yes	N/Ap	N/Av	No	N/Ap
Polymeric Film	N/Av	NS	None.	NS	NS	N/Ap



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SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes:None. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Polystyrene	9003-53-6	No	N/Ap	No	No	No	No	No	No
Pentane	109-66-0	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
Hexabromocyclododecane	3194-55-6	No	N/Ap	No	No	No	No	No	No
Polymeric Film	N/Av	No	N/Ap	NS	NS	NS	NS	NS	NS

### Canadian Information:

All ingredients listed appear on the Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL). WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Polystyrene	9003-53-6	N/Av	Present	Present	(6)-120	KE-13257	Present	No information available.
Pentane	109-66-0	203-692-4	Present	Present	(2)-5	KE-27968	Present	HSR001212
Hexabromocyclododecane	3194-55-6	221-695-9	Present	Present	(3)-2254	KE-18398	Present	HSR003458
Polymeric Film	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

## SECTION 16. OTHER INFORMATION

### Legend

: ACGIH: American Conference of Governmental Industrial Hygienists  
 AICS: Australian Inventory of Chemical Substances  
 ATE: Acute Toxicity Estimate  
 CA: California  
 CAS: Chemical Abstract Services  
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
 CFR: Code of Federal Regulations  
 CSA: Canadian Standards Association  
 DOT: Department of Transportation  
 ECHA: European Chemicals Agency  
 ECOTOX: U.S. EPA Ecotoxicology Database  
 EINECS: European Inventory of Existing Commercial chemical Substances  
 ENCS: Existing and New Chemical Substances  
 EPA: Environmental Protection Agency  
 HSDB: Hazardous Substances Data Bank



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IARC: International Agency for Research on Cancer  
IBC: Intermediate Bulk Container  
IECSC: Inventory of Existing Chemical Substances  
IMDG: International Maritime Dangerous Goods  
IOC: Inventory of Chemicals  
IUCLID: International Uniform Chemical Information Database  
KECI: Korean Existing Chemicals Inventory  
KECL: Korean Existing Chemicals List  
LC: Lethal Concentration  
LD: Lethal Dose  
MA: Massachusetts  
MN: Minnesota  
N/Ap: Not Applicable  
N/Av: Not Available  
NIOSH: National Institute of Occupational Safety and Health  
NJ: New Jersey  
NOEC: No observable effect concentration  
NTP: National Toxicology Program  
OECD: Organisation for Economic Co-operation and Development  
OSHA: Occupational Safety and Health Administration  
PA: Pennsylvania  
PEL: Permissible exposure limit  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
RCRA: Resource Conservation and Recovery Act  
RI: Rhode Island  
RTECS: Registry of Toxic Effects of Chemical Substances  
SARA: Superfund Amendments and Reauthorization Act  
SDS: Safety Data Sheet / Material Safety Data Sheet  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

**References** : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2018  
2. International Agency for Research on Cancer Monographs, searched 2018  
3. Canadian Centre for Occupational Health and Safety, CCHInfoWeb databases, 2018(Chempendium, HSDB and RTECs).  
4. Material Safety Data Sheets from manufacturer.  
5. US EPA Title III List of Lists - 2018 version.  
6. California Proposition 65 List - 2018 version.  
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal,2018.

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**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.



StarRfoam Mfg. Inc.  
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Arlington, TX, 76011  
Telephone: (817) 654 4688

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Telephone: 817-654-4688

### Prepared by:

ICC The Compliance Center Inc.  
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