

54 Randall Street,  
Slacks Creek QLD 4127  
PO Box 997  
Slacks Creek QLD 4127

Telephone: (07) 3209 1044  
Facsimile: (07) 3808 3321  
email: [sales@koolfoam.com.au](mailto:sales@koolfoam.com.au)  
Website: [www.koolfoam.com.au](http://www.koolfoam.com.au)

## MATERIAL SAFETY DATA SHEET

Revision #5 03.07.08

### **PRODUCT IDENTIFICATION**

#### **PRODUCT NAME**

##### **Description:**

Expanded Polystyrene containing fire retardant modifier.

##### **Australian Code for Transport of Dangerous Goods:**

UN No. 2211 (Plastics, Moldings materials evolving flammable vapours)  
Class 9 HAZCHEM Code 3 (Y).

### **USE**

#### **Physical Description/Properties**

- Appearance: Opaque rigid cellular plastic.
- Odour: Slight hydrocarbon.
- Solubility: Insoluble in water and alcohol, soluble in hydrocarbons, esters and ketones.
- Percent Volatiles (by wt) 3 max

#### **Ingredients**

Chemical Entity	CAS No	Proportion & Wt.
• Polystyrene	9003-53-6	95.5
• Pentane	109-66-0 )	
• Isopentane	78-78-4 )	3 max
• Halogenated Organic Compound	-	1.5 max

### **HEALTH HAZARD INFORMATION**

The product is considered to be practically non-harmful by all routes of exposure. Pentane vapours emitted from the freshly moulded unconditioned product may cause mild irritation to the eyes and nose and drowsiness on acute over-exposure.

Cutting and fabrication operations have produced no unusual reaction with which we are familiar. Hot wire cutting may generate thermal decomposition products (fumes) which are irritating to the eyes nose and throat.

## **PRECAUTIONS FOR USE**

### **Exposure limits**

Pentane component,	NH & MRC TLV-TWA	8hr:	600ppm
	TLV-STEL	(15min):	750ppm

**Ventilation:** Provide sufficient ventilation to keep pentane vapour concentration below the TVL and therefore below the explosive limit.

**Personal Protection:** Use SAA approved respiratory protection when exposure limit for total pentane is exceeded consult respiratory protection equipment supplier to determine appropriate equipment for a given application.

**Flammability:** Moulded foam pieces will exhibit a pentane halo which is particularly evident immediately after moulding or cutting and declines thereafter and is generally no longer evident after 7 days storage at room temperature (20 C) the fire hazard diminished markedly as the pentane concentration in moulded foam declines during storage and application (10 – 14 days).

- Prohibit smoking in storage and warehouse areas.
- Keep freshly moulded product away from strong heat, sparks or flame.
- Do not weld near product. If welding is necessary, remove product from the area and perform work under supervision.

*(See also “Safe Handling Information” section).*

## **SAFE HANDLING INFORMATION**

Freshly moulded unconditioned product may contain sufficient residual pentane blowing agent and form a pentane “halo” around it. If ignited this halo will burn with a blue flame and sufficient heat to promote complete destruction of the part. Such products present a potential fire hazard in storage. A well ventilated area is necessary. All ignition sources should be avoided.

Freshly moulded unconditioned product is considered to be a Dangerous Good (UN No. 2211, Class 9). Comply with all laws and regulations relating to the storage and transport of such product.

The product should be transported in well ventilated containers. Truck drivers and receiving personnel should be aware of the potential fire risk with freshly moulded unconditioned product.

They should be advised to:

- Open door carefully.
- Ventilate trucks and trailers for 15 minutes prior to unloading.
- Prohibit smoking prior to and during unloading.

### **Spills and Disposal**

Waste product may need to be aged for several months open to the atmosphere to allow release of sufficient pentane to minimize the risk for fire during disposal. The absence of pentane odour is a good indication that the products are safe for disposal. Freshly moulded unconditioned waste should be stored in a well ventilated area away from all sources of ignition during the aging process.

### **Fire/Explosion Hazard**

The principle safety hazard with the product is fire. Both polystyrene and the pentane blowing agent are combustible. Pentane evaporated from the freshly moulded product at different rates and in different quantities depending on factors such as ambient temperature as the size and shape of the mouldings and the degree of aging. Pentane vapour has the following properties:

- |                           |   |
|---------------------------|---|
| • Odour:                  | Light Hydrocarbon                                       |
| • Appearance:             | Colourless  |
| • Vapour Density (Air=1): | 2.5   |
| • Flash Point (closed):   | Less than – 40 C  |
| • Flammable Limits:       | LEL 1.3%, UEL 7.8%                                      |
| • Extinguishing Media:    | Water spray, foam. Carbon dioxide.<br>BCF or dry powder |

### **Special Fire Fighting Procedures:**

Fire-fighters and others exposed to the products of combustion should wear self contained breathing apparatus. Equipment should be decontaminated after use. When ignited the product melts, drips and gives off toxic decomposition products and dense black smoke which obscures vision.

Hazardous Decomposition Products: Decomposition products above 240 C include carbon monoxide, carbon dioxide, smoke, styrene monomer and other hydrocarbons, hydrogen halides, and other halogen compounds.