

## Material Safety Data Sheet

### 1. CHEMICAL PRODUCT I COMPANY IDENTIFICATION

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24-Hour Emergency Phone Number: 517-636-4400

PRODUCT: STYROFOAM (R) BRAND PANEL CORE 40 EXTRUDED POLYSTYRENE INSULATION (3 x 48.13)

Effective Date: 02/09/96 Date Printed: 02/17/96 MSD: 002462

Customer Information Center: 800-842-8688

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Polystyrene	CAS# 009003-53-6	69-100%
Chlorodifluoroethane	CAS# 000075-68-3	6-10 %
Ethyl chloride	CAS# 000075-00-3	0-2.5%
Polyethylene	CAS# 009002-88-4, or CAS# 026221-73-8	0-10 %
Hexabromocyclododecane	CAS# 025637-99-4	0.7-2.0%
Polypropylene	CAS# 009003-07-0	0-10 %

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

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\* Color: Blue Appearance: Rigid board. Odor: None. \*

\* Toxic fumes are released in fire situations. \*

\*\*\*\*\*

#### POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

**EYE:** Solid or dust may cause irritation or corneal injury due to mechanical action.

**SKIN:** Mechanical injury only. Essentially nonirritating to skin. Skin absorption is unlikely due to physical properties.

**INGESTION:** Ingestion is unlikely due to physical state. Physical injury only. May cause choking if swallowed.

**INHALATION:** Dust may cause irritation to upper respiratory tract. Excessive exposure to high concentrations of the ethyl chloride,

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and chlorodifluoroethane blowing agents may cause central nervous system depression, anesthetic effects and irregular heartbeats (cardiac sensitization). In animals, excessive exposure to chlorodifluoroethane has caused low blood pressure, respiratory stimulation and tightness in the chest (bronchoconstriction). Concentrations of the above blowing agents anticipated incidental to proper handling are expected to be well below those which cause the acute inhalation effects listed above, as well as below the OSHA PEL and Dow Industrial Hygiene Guide.

**SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:** Repeated exposures to dusts of this material are not anticipated to result in systemic toxicity or permanent lung injury; however, excessive exposures may cause less severe respiratory effects.

Hexabromocyclododecane (HBCD) may increase tissue levels of bromine.

**CANCER INFORMATION:** Neither polystyrene foam dust, nor chlorodifluoroethane caused cancer in long-term animal studies. Uterine tumors seen, in female mice given high doses of ethyl chloride for their lifetimes are believed to be unique to female mice. Such tumors did not occur in rats similarly exposed. These results are not believed to be relevant to humans.

**TERATOLOGY (BIRTH DEFECTS):** No birth defects were seen in animal studies with ethyl chloride or chlorodifluoroethane.

## 4. FIRST AID

**EYE:** Flush eyes with plenty of water; mechanical effects only.

**SKIN:** Wash off in flowing water or shower.

**INGESTION:** No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

**INHALATION:** Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**NOTE TO PHYSICIAN:** Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs

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unless absolutely necessary. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

## 5. FIRE FIGHTING MEASURES

### FLAMMABLE PROPERTIES

FLASH POINT: 670F, 354C Flash ignition temperature.

METHOD USED: ASTM D1929 Proc. B.

### FLAMMABILITY LIMITS

LFL: Not applicable.

UFL: Not applicable.

HAZARDOUS COMBUSTION PRODUCTS: Hazardous combustion products may include and are not limited to: carbon dioxide and carbon monoxide. Studies have found that products of combustion of this polystyrene foam insulation are no more acutely toxic than the products of combustion of other common building materials such as wood.

EXTINGUISHING MEDIA: Water fog, carbon dioxide, dry chemical.

FIRE FIGHTING INSTRUCTIONS: This polystyrene foam plastic product is combustible. This product contains a flame retardant to inhibit accidental ignition from small fire sources. However, once ignited this product will burn, emitting a dense black smoke. Highly toxic fumes are released in fire situations. During shipping, storage, and use this product must be protected from flame or other high heat sources. During certain fabrication operations such as cutting and grinding, blowing agents contained in the foam and dust may be released. Accumulation of blowing agents or dust in air could present flammability and explosion concerns. Provide adequate ventilation, and appropriate dust handling systems where needed. This product should not be shipped, stored or used in virtually airtight spaces to prevent the build-up of combustible vapors.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves).

## 6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

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PROTECT THE ENVIRONMENT: Firewater run off may be toxic.

CLEANUP: Pick up, or if dust or in small pieces, sweep up and place in suitable container for disposal.

## 7. HANDLING AND STORAGE

**HANDLING:** Mechanical handling equipment can cause formation of dusts. Maintain good housekeeping. Layers of flammable dusts should not be permitted to accumulate.

**STORAGE:** Flammable vapors may accumulate in some storage situations. Storage, use and handling areas should be "No Smoking" areas. Limited industrial hygiene measurements of ethyl chloride in ventilated warehouses and production facilities indicate that ethyl chloride present in the air is below the current 150 PPM Industrial Hygiene Guide for ethyl chloride.

Gas fired recirculating air furnaces or heaters, gas water heaters, etc., drawing air from areas where there may be a presence of ethyl chloride, and chlorodifluoroethane gases from storage or fabrication of extruded polystyrene foam, can be subjected to rust and corrosion problems as a result of thermal decomposition of the blowing agents to hydrogen chloride.

**NOTICE:** This polystyrene foam plastic product is COMBUSTIBLE and should be protected from flame and other high heat sources. It should be installed with code-acceptable thermal barriers or used in--approved alternative constructions.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

**PERSONAL/PROTECTIVE EQUIPMENT EYE/FACE PROTECTION:** Use safety glasses. If there is a potential for exposure to particles which could cause mechanical injury to the eye, wear chemical goggles.

**SKIN PROTECTION:** No precaution other than clean body-covering clothing should be needed.

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**RESPIRATORY PROTECTION:** Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, including but not limited to saw, router, or hot wire cutting, use an approved air-purifying respirator. In dusty atmospheres, use an approved dust respirator.

**EXPOSURE GUIDELINE(S):** Ethyl chloride: ACGIH TLV is 100 ppm, skin, A3. OSHA PEL is 1000 ppm.

Chlorodifluoroethane (HCFC 142b): AIHA WEEL is 1000 ppm, TWA.

PELs are in accord with those recommended by OSHA, as in the 1989 revision of PELs.

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

## 9.     **PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE/PHYSICAL STATE:** Rigid cellular foam board. **ODOR:** No odor.

**VAPOR PRESSURE:** Not applicable

**VAPOR DENSITY:** Not applicable

**BOILING POINT:** Not applicable

**SOLUBILITY IN WATER/MISCIBILITY:** None **SPECIFIC GRAVITY OR DENSITY:** .027 To .064

## 10.    **STABILITY AND REACTIVITY**

**STABILITY:** Stable.

**CONDITIONS TO AVOID:** Avoid fire and high temperatures. Temperatures over 300C (572F) will release combustible gases.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Aromatic hydrocarbons, higher (>C5) aliphatic hydrocarbons, esters, amines, higher aldehydes.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Does not normally decompose. In smoldering or flaming conditions, carbon monoxide, carbon

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dioxide, carbon are generated. Evolution of small amounts of hydrogen bromide, hydrogen chloride and hydrogen fluoride occurs when burned or heated over 250C (482F); under high heat, non-flaming conditions, small amounts of aromatic hydrocarbons such as styrene and ethylbenzene are generated.

HAZARDOUS POLYMERIZATION: Will not occur.

- 11. TOXICOLOGICAL INFORMATION** (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

MUTAGENICITY: For the minor components ethyl chloride and chlorodifluoroethane in vitro mutagenicity studies were negative in some cases and positive in other cases. For the minor components chlorodifluoroethane animal mutagenicity studies were negative. For the minor components HBCD in vitro mutagenicity studies were negative.

- 12. ECOLOGICAL INFORMATION** (For detailed Ecological data write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000). In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment, material will sink and remain in the sediment.

DEGRADATION & PERSISTENCE: This water insoluble-polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

ECOTOXICITY: Not expected to be acutely toxic.

- 13. DISPOSAL CONSIDERATIONS** (See Section 15 for Regulatory Information)

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

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INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator, or landfill.

For additional information, refer to Handling & Storage Information, MSDS Section 7.

## 14.     **TRANSPORT INFORMATION**

CANADIAN TDG INFORMATION: This product is not regulated by TDG when shipped domestically by land.

U.S. DEPARTMENT OF TRANSPORTATION (D.O.T.): This product is not regulated by D.O.T. when shipped domestically by land.

## 15.     **REGULATORY INFORMATION** (Not meant to be all-inclusive—selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

### **U.S. REGULATIONS**

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SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of

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**REGULATORY INFORMATION (CONTINUED)**

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the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
CHLOROETHANE (ETHYL CHLORIDE)	000075-00-3	<4.5 %
CHLORODIFLUOROETHANE	000075-68-3	6 -10 %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title 111) and is considered, under applicable definitions, to meet the following categories:

Exempt article

This product has been determined to be an article under the definition included in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

CALIFORNIA PROPOSITION 65: The following statement is made in order to COMPI with the California Safe Drinking Water and Toxic Enforcement Act of 1986:

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
CHLOROETHANE (ETHYL CHLORIDE)	000075-00-3	NJ3 PA1 PA3
CHLORODIFLUOROETHANE	000075-68-3	NJ2 NJ3 PA1

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## REGULATORY INFORMATION (CONTINUED)

NJ2=New Jersey Environmental Hazardous Substance (present at greater than or equal to 1.0%) '



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NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).

PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

## **CANADIAN REGULATIONS**

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WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

This product is not a "Controlled Product" under WHMIS.

## **16.   OTHER INFORMATION**

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	0
Flammability	1
Reactivity	0

MSOS STATUS: Revised Sections 2 and 8.