

Product Information Bulletin

White Matter ® Material Property Data Sheet

White Matter ® is a closed cell expanded polystyrene (EPS) insulation that meets or exceeds the requirement of CAN/ULC-S701-11, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering. White Matter ® EPS closed cell structure resists water absorption so it will retain its R-value even in applications where severe temperature differentials occur.

White Matter ® EPS provides a minimum compressive resistance of 276 kPa (40 psi). The high compression resistance makes it ideal for tile and stone shower applications.

Material Property	Test Method	Units	Values	
Compressive Resistance <i>Minimum @ 10% Deformation</i>	ASTM D16212	kPa (psi)	276 (40)	
Compressive Modulus <i>Minimum</i>		kPa (psi)	10000 (1,450)	
Thermal Resistance <i>Minimum per 25 mm (1 inch) thickness</i>	ASTM C518	m ² •°C/W (ft ² •h•°F/BTU)	0.75 (4.3)	
Flexural Strength <i>Minimum</i>	ASTM C203	kPa (psi)	414 (60)	
Shear Strength <i>Minimum</i>	ASTM C273	kPa (psi)	207 (30)	
Water Vapour Performance <i>Maximum</i>	ASTM E96	ng/(Pa•s•m ²) (Perms)	90 (1.5)	
Water Absorption ¹ <i>Maximum</i>	ASTM D2842	% by volume	2.0	
Dimensional Stability <i>Maximum, 7 days @ 70 ± 2°C (158 ± 4°F)</i>	ASTM D2126	% Linear Change	1.5	
Limiting Oxygen Index <i>Minimum</i>	ASTM D2863	%	24	
Thermal Resistance Values at Additional Reference Mean Temperatures²				
Thermal Resistance <i>Minimum per 25 mm (1 inch)</i>	ASTM	°C(F)	3.9 (25)	-10 (14)
	C518	m ² •°C/W (ft ² •h•°F/BTU)	0.84 (4.8)	0.87 (5.0)

¹ The water absorption laboratory test method involves complete submersion under a head of water for 96 hours. The water absorption value above is applicable to specific end-use design requirements only to the extent that the end-use conditions are similar to test method requirements.

² Thermal resistance value for compliance with the CAN/ULC-S701 is measured at a mean temperature of 24 °C (75 °F). **Thermal resistance values at the additional mean temperatures of -3.9 °C (25 °F) and -10 °C (14 °F) are provided for reference purposes where applicable.**

Technical Bulletin

Material Safety Data Sheet (MSDS) Custom EPS Products for Construction Applications.

This MSDS addresses Custom EPS expanded polystyrene (EPS) products for construction applications made from raw materials containing a combustion modifier.

Section 1: Product Information & Company Identification

Synonyms: Expanded Polystyrene (EPS) foam plastic.

Chemical Family: Ethenylbenzene Homopolymer.

Formula: (C₈H₈)_n

TSCA Chemical Substance Inventory Status: Listed

Supplier Corporate Office:

Custom EPS
9465 – 49 ST
Edmonton, AB
T6B 2L8

Section 2: Composition / Ingredients

Component	CAS Registry No	Approx Weight Percentage
n-Pentane	109-66-0	<2% amounts reapidly
Isopentane	78-78-4	decreasing with age
Brominate Flame Retardant	3194-55-6	<1%
Polymeric Film	N/A	1 to 3%
Polystyrene Thermoplastic	9003-53-6	98 to 99%

Component Related Regulatory Information:

This product may be regulated or have exposure limits identified as the following: Nuisance particulates.

Component Information/Information on Non-Hazardous Components:

No additional information available.

Section 3: Health Hazards

PRINCIPAL HEALTH HAZARDS, SIGNS & SYMPTONS OR EXPOSURE:

Eye Contact: Dust or particles in eyes may cause mechanical eye irritation and/or injury.

Inhalation: Dust from mechanical fabrication may cause upper respiratory tract irritation. Fumes from heated cutting tools can also cause upper respiratory tract irritation (see also section 8 of this MSDS).

Skin Contact: Irritation from skin contact is rare. In a few individuals, contact may produce slight skin irritation.

Ingestion: Product is biologically inert. If swallowed, it may act as an obstruction.

Incompatibility (Materials to avoid): Product will dissolve in most organic solvents, and some insecticides, aldehydes and amines.

Section 4: First Aid

Eyes: If dust or particles become lodges in eyes, rinse with clean water. Obtain medical attention if condition is painful.

Inhalation: If overcome by exposure, remove individual to fresh air. If systems persist provide oxygen and obtain medical attention.

Skin: Contact is not expected to present a skin hazard. Wash exposed areas with mild soap and water. Consult a physician if irritation persists.

Ingestion: Product is not expected to present significant ingestion hazard. If it does occur, watch the person for several days to make sure obstruction does not occur. Do not induce vomiting unless directed to by physician.

Section 5: Physical Data

Form: Product consist of rigid cellular foam blocks, boards, and shapes.

Color : White.

Odour: Very slight hydrocarbon odour.

Boiling Point: N/A

Melting Point: Softening begins between 70 to 80 °C (160 to 176 °F)

Density: 2.5 lbs/ft³

Specific Gravity: <1.0.

Vapour Pressure: N/A

Volatile by Volume: <4% (pentane and water)

Vapour Density (Air =1): N/A

Evaporation Rate: None

Solubility in Wate: Insoluble

Section 6: Fire & Explosion

Flash Point: >345 °C (>650 °F) using ASTM Test Method D1929.

Special Fire Fighting Instructions: Fire fighters should wear self-contained breathing apparatus and personal protective clothing (turn out gear) in sustained fire.

Extinguishing Media: Water fog, carbon dioxide, dry chemical, foam should be used.

Auto-ignition Temperature: 440 °C (824 °F) Min.

Usual Fire and Explosion Hazards: Burning may product dense black smoke. Smoke consists of carbon monoxide, carbon dioxide, styrene, hydrogen halide, nuisance particulate, carbon (soot) and pentane.

Other undetermined hydrocarbon fractions could be released in trace quantities. Dust generated by fabrication (ie sanding, sawing, etc) will increase fire hazard and should be handled accordingly.

Section 7: Reactivity Data

Stability (Conditions to avoid): Product is stable. However, exposure to fire and high temperatures must be avoided.

Incompatibility (Materials to avoid): Produce will dissolve in hydrocarbons, esters, aldehydes and amines.

Hazardous Decomposition: Primary combustion products include carbon monoxide, carbon monoxide, carbon dioxide, styrene, hydrogen halide, nuisance particulate, carbon (soot) and pentane. Other undetermined hydrocarbon fractions could be released in trace quantities.

Hazardous Polymerization: Will not occur.

Section 8: Exposure Controls / Personal Protection

General Control Measures for Cutting with Heated Cutting Tools:

Provide sufficient general and/or local exhaust ventilation to maintain exposure below permissible personal exposure limit (PEL) or threshold limit value (TLV) for combustion products from heated cutting tools. Use local exhaust, where possible, in confined or enclosed spaces. Wear approved safety glasses/goggles and dust mask if mechanical fabrication is to take place.

Personal Protective Equipment:

Respiratory Protection: Use approved dust mask when sawing or sanding. Use approved NOISH respirator when the PEL or TLV for combustion products from heated cutting tools, sawing or sanding may be exceeded.

Skin Protection: Skin protection not normally required. Wear gloves and/or sleeves, if sensitivity noted.

Eye Protection: Use approved safety glasses/goggles when sawing or sanding.

Section 9: Spill or Leak Procedures

Spill, Leak or Release Procedures: Normal good housekeeping should be observed. Material can be swept or picked up and placed into a suitable container for disposal.

Reportable Quantity: None.

Disposal Method: Recycle, incinerate (WTE) or landfill per local and provincial regulations.

Section 10: Disposal Considerations

General Produce Information: Material, if discarded, is not expected to be a characteristic hazardous waste.

Disposal Instructions: Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Section 11: Transportation Information

Shipping Name: Not regulated for transport.

Hazard Class: None

UN/NA #: None

Packing Group: None

Section 12: Special Precautions

Storage and Handling: Although expanded polystyrene contains a fire retardant additive, it is considered combustible and adequate protection from sources of ignition should be taken.

Combustibility Labeling:

CAUTION: THIS PRODUCT IS COMBUSTIBLE. A PROTECTIVE BARRIER OR THERMAL BARRIERS IS REQUIRED AS SPECIFIED IN THE APPROPRIATE BUILDING CODE.