



dP EPS (Expanded Polystyrene) Insulation and Other EPS Products

Physical Properties ¹ (Specification Reference: ASTM C 578-2)	ASTM Method	English Units	TYPE 1	TYPE VIII	TYPE II	TYPE IX
Density, minimum	D 303 or D 1622	lb/ft ³	0.9	1.15	1.35	1.8
Density Range		lb/ft ³	0.90 to 1.14	1.15 to 1.34	1.35 to 1.79	1.80 to 2.20
Compressive Strength(10% Deformation)	D 1621	lb/in ²	10 to 14	13 to 18	15 to 21	25 to 33
Shear Strength:	C 273	lb/in ²	18 to 22	23 to 25	26 to 32	33 to 37
Shear Modulus	C 273	lb/in ²	280 to 320	370 to 410	460 to 500	600 to 640
Modulus of Elasticity	--	lb/in ²	180 to 220	250 to 310	320 to 360	460 to 500
Tensile Strength:	D 1623	lb/in ²	16 to 20	17 to 21	18 to 22	23 to 27
Flexural Strength:	C 203	lb/in ²	25 to 30	30 to 38	40 to 50	50 to 75
K-Factor: Thermal Conductivity	C 518	BTU·in/hr·ft ² ·°F				
25 °F			0.23	0.22	0.21	0.20
40 °F			0.24	0.235	0.22	0.21
75 °F			0.26	0.255	0.24	0.23
R-Factor: Thermal Resistance (at 1 " thick)	C 518	hr·ft ² ·°F/BTU				
25 °F			4.35	4.54	4.73	5.00
40 °F			4.17	4.25	4.55	4.76
75 °F			3.85	3.92	4.17	4.35
Water Absorption	C 272	% by volume	<4.0	<3.0	<3.0	<2.0
Water Vapor Transmission	E 96	perm-inch	2.0 to 5.0	1.5 to 3.5	1.0 to 3.5	0.6 to 2.0
Capillarity	--	--	None	None	None	None
Coefficient of Thermal Expansion	D 696	in/in·°F	0.000035	0.000035	0.000035	0.000035
Maximum Service Temperature		°F				
Long term exposure			167	167	167	167
Intermittent exposure			180	180	180	180
Oxygen Index	D 2863	%	24	24	24	24

Rev. 03/05

1. These are nominal values obtained from representative product samples, and are subject to normal manufacturing variances. For additional property ranges and specifications, contact Dyplast Products.



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Revision: 12/02/03

DYPLAST PRODUCTS EXPANDED POLYSTYRENE

MATERIAL SAFETY DATA SHEET

DYPLAST PRODUCTS, LLC
12501 NW 38th AVENUE
MIAMI, FLORIDA 33054
www.dyplastproducts.com

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product. This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accordance with the MSDS requirements of the rule.

I. General

Trade Name: *DYPLAST PRODUCTS EXPANDED POLYSTYRENE (EPS)*
Telephone Numbers: *(800) 433-5551 or 305-921-0100 MIAMI, FL*
Other Names: *EPS, EXPANDED POLYSTYRENE*
Chemical Family: *EXPANDABLE POLYSTYRENE*

DOT Hazardous Materials

Proper Shipping Name: *NOT REGULATED (SEE SUPPLEMENT)*
Generic Name: *EPS INSULATION BOARD*
DOT Hazard Class: *NOT REGULATED*
CAS No: *SEE SECTION IX*

II. Summary of Hazards

Physical Hazards:

Acute Health Effects: *CAN BE A MECHANICAL IRRITANT TO INHALATION AND EYES ONLY IF DUST IS CREATED (Short-Term) DURING FABRICATION.*

Chronic Health Effects: *NO CHRONIC HEALTH EFFECTS FOR THIS MATERIAL HAVE BEEN REPORTED. (Long-Term)*

III. Fire and Explosion

Flash Point (Method): *600°F to 650°F*

Auto-ignition Temperature: *914°F*

Flammable Limits (% Vol. in Air)
At Normal Atmospheric

Temperature and Pressure: Lower: N/AP Upper: N/AP
Fire and Explosion Hazards: WILL MELT WHEN EXPOSED TO TEMPERATURES OF 300 F TO 500 F
Extinguishing Media: DRY CHEMICAL (ABC TYPES), CO2, WATER SPRAY, WATER FOG, FOAM, WATER
Special Firefighting Procedures: SELF CONTAINED BREATHING APPARATUS

IV. Health Hazards

Summary of Acute Hazards: SLIGHT. SEE BELOW.

<u>ROUTE OF EXPOSURE</u>	<u>SIGNS AND SYMPTOMS</u>
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Inhalation:	NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF ANY ADVERSE HEALTH HAZARD ARE EXPECTED TO OCCUR AS A RESULT OF INHALATION EXPOSURE .
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Eye Contact:	MAY CAUSE MINOR EYE IRRITATION
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Skin Absorption:	NONE
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Skin Irritation:	NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF ANY ADVERSE HEALTH HAZARD ARE EXPECTED TO OCCUR AS A RESULT OF ABSORPTION.
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Ingestion:	NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF ANY ADVERSE HEALTH HAZARD ARE EXPECTED TO OCCUR AS A RESULT OF INGESTION.
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Summary Chronic Hazards and Special Health Effects:	NO CHRONIC HEALTH HAZARDS FOR THIS MATERIAL HAVE BEEN REPORTED NO ADDITIONAL MEDICAL INFORMATION FOUND
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V. Protective Equipment and Other Control Measures

Respiratory:	USE MASK DURING FABRICATION, IF NECESSARY. USE NIOSH/OSHA APPROVED RESPIRATORY EQUIPMENT.
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Eye:	AS NECESSARY, SAFETY GLASSES SUGGESTED.
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Skin:	NO DATA FOUND: NO EXPECTED SKIN ABSORPTION OR SKIN IRRITANT.
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Engineering Controls:	EXERCISE GOOD HOUSEKEEPING PROCEDURES.
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Other Hygienic and Work Practices:	PROVIDE ADEQUATE VENTILATION WHEN FABRICATING.
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VI. Occupational Exposure Limits

DYPLAST PRODUCTS EXPANDED POLYSTYRENE

Substance	Source	Date	Type	Value/Units	Time
<i>NUISANCE DUST (TOTAL)</i>	<i>OSHA</i>	<i>1989</i>	<i>TWA</i>	<i>15 MG/MS</i>	<i>8 HRS</i>
<i>NUISANCE PARTICULATES</i>	<i>ACGIH</i>	<i>1989</i>	<i>TWA</i>	<i>10 MG/M3</i>	<i>8 HRS</i>
<i>NUISANCE DUST (RESP.)</i>	<i>OSHA</i>	<i>1989</i>	<i>TWA</i>	<i>5 MG/M3</i>	<i>8 HRS</i>

VII. Emergency and First Aid

Inhalation:	<i>INHALATION OF SOLID MATERIAL UNLIKELY. REMOVE TO FRESH AIR.</i>
Eye Contact:	<i>FLUSH WITH WATER FOR 15-20 MINUTES OR UNTIL IRRITATION CEASES.</i>
Skin Contact:	<i>WASH WITH SOAP AND WATER.</i>
Ingestion:	<i>N/AP</i>
Emergency Medical	<i>TREAT SYMPTOMATICALLY. AFTER ADEQUATE FIRST AID, NO FURTHER TREATMENT REQUIRED</i>
Treatment Procedures:	<i>UNLESS SYMPTOMS REAPPEAR.</i>

VIII. Spill and Disposal

Precautions If Material is Spilled or Released:	<i>N/AP Waste Disposal Methods: DISPOSAL SHOULD BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.</i>
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IX. Components

(This may not be a complete list of components)

Component Name (See Qualification on Page 4)	CAS No.	Carcinogen Composition amount (Wt.)	
<i>POLYSTYRENE</i>	<i>9003-53-6</i>	<i>N/AP</i>	<i><u>LESS THAN .01% VOLUME</u></i>
<i>PENTANE</i>	<i>109-66-0</i>	<i>N/AP</i>	<i><u>(NOT SIGNIFICANT AT 1 YEAR AGING)</u></i>

X. Physical and Chemical Data

Boiling Point: *N/AP*

Viscosity Units, Temp.
(Method): *N/AP*

Dry Point: *N/AP*

Freezing Point: *N/AP*

Vapor Pressure: *N/AP*

Volatile Characteristics: *N/AP*

Specific Gravity: *1.0 PCF to 3.0 PCF*
(H₂O = 1 at 39.2F):

Vapor Sp.Gr.
(Air = 1.0 at 60? - 90?F): *N/AP*

Solubility in Water: *N/AP*

pH: *N/AP*

Hazardous Polymerization: *NOT EXPECTED TO OCCUR*

Other Chemical Reactivity: *N/AP*

Stability: *STABLE*

Other Physical and
Chemical Properties: *N/AP*

Appearance and Odor: *RIGID WHITE FOAM PLASTIC. NO ODOR.*

Conditions to Avoid: *OPEN FLAME OR OTHER IGNITION SOURCES.
PROLONGED EXPOSURE TO THE ELEMENTS.
HOT ASPHALT TEMPERATURES EXCEEDING 185 F.*

Materials to Avoid: *PETROLEUM BASED SOLVENTS, COAL TAR PRODUCTS,
AND FIBERGLASS RESIN COATINGS APPLIED DIRECTLY
TO FOAM SURFACE.*

Hazardous Decomposition
Products (Fire): *N/AP*

XI. Additional Precautions

Handling, Storage and

Decontamination Procedure: *WHEN STORED OUTDOORS, STACK AT LEAST 4" ABOVE GROUND LEVEL AND COVER TARPULINS OR OTHER SUITABLE COVERING. KEEP AWAY FROM SOURCES OF IGNITION AND WEATHER.*

General Comments: *SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.*

XII. Regulatory Information

a. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA), TITLE III EXEMPT. APPENDIX H(4) SECTION 1910, 1200(b) AS A MANUFACTURED ITEM a), b), c), AND SECTION 311(e) #10.

b. TOXIC SUBSTANCES CONTROL ACT (TSCA) ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

c. COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA)
NO CHEMICALS IN THIS PRODUCT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF CERCLA.

XIII. Component Health Hazards

Component Name	Component Health Hazards
POLYSTYRENE	NO SIGNIFICANT HAZARDS
PENTANE BLOWING AGENT	NO SIGNIFICANT HAZARDS

XIV. Supplement

SHIPPING REGULATIONS

NOT CLASSIFIED AS A HAZARDOUS MATERIAL BY DEPARTMENT OF TRANSPORTATION DEFINITIONS AND HENCE IT IS NOT REGULATED.

Qualifications

EQ = Equal

AP = Approximately

UK = Unknown

TR = Trace

LT = Less Than



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GT = Greater Than

N/AP = Not Applicable

N/DA = No Data Available

N/P = No Applicable Information Found

Disclaimer of Liability

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The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.



Rev. 08/14/04

dPEPS Foam Compliances and Approvals (Expanded Polystyrene)

dPEPS Foam complies with the requirements of the following codes and specifications when properly installed:

ASTM Compliance:

ASTM C 578-92

Factory Mutual Compliance:

FM 4450

Other Compliances:

Miami-Dade County, Florida Product Control No. N.O.A. 01-1108.09

UL-R 4812 Vol.2

ICBO-ER-3240

RADCO-1289

SBCCI-Report #9443-B

BOCA-957

Wisconsin Material Approval #990054-1



Eco-\$mart, Inc.

(888) 329-2705

info@ecosmartinc.com

www.ecosmartinc.com