

SAFETY DATA SHEET

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product ID: ARFM-14840, 14825, 24840, 24825
Product Name: ArmorFoam
Revision Date: Sep 29, 2017 **Date Printed:** Sep 29, 2017
Version: 1.0 **Supersedes Date:** N.A.
Manufacturer's Name: Mar-flex Waterproofing & Building Products
Address: 500 Business Parkway Carlisle, OH, US, 45005
Emergency Phone: Chem-Trec: 1-800-424-9300
Information Phone Number: 513-422-7285
Fax: 513-422-7282
Product/Recommended Uses: Foam insulation and/or geotechnical fill

SECTION 2) HAZARDS IDENTIFICATION

Classification

Not a hazardous substance or mixture according to United States Occupational Safety and Health Administration (OSHA) 2012 Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified (HNOC)

None.

Additional hazard information

Dust from mechanical fabrication may cause respiratory tract irritation or eye irritation.
Fumes from heated cutting tools may cause respiratory tract irritation.

n-Pentane and isopentane are residual blowing agents and not intended to be part of the product. Residual pentane rapidly decreases with age. Product will contain either hexabromocyclododecane or brominated polymer as a flame retardant.

SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0009003-53-6	POLYSTYRENE	98% - 99%
0007782-42-5	GRAPHITE	1.0% - 5%
0000109-66-0	PENTANE	0.0% - 1%
0003194-55-6	Cyclododecane, 1,2,5,6,9,10-hexabromo-	0.0% - 1.0%
1195978-93-8	Benzene, ethenyl-, polymer with 1,3-butadiene, brominated	0.0% - 1.0%
0000078-78-4	ISOPENTANE	Trace

Specific chemical identity and/or exact percentage (concentration) of the composition has been withheld to protect confidentiality.

SECTION 4) FIRST-AID MEASURES

Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

Eye Contact

Gently brush product off face. Do not rub eyes. Let the eyes water naturally for a few minutes. Look right and left, then up and down. If particle/dust does not come out, cautiously rinse eyes with lukewarm, gently flowing water for 5 minutes or until particle/dust is removed.

while holding the eyelids open. If eye irritation persists: Get medical advice/attention. Do not attempt to manually remove anything from the eyes.

Skin Contact

Rinse/wash with lukewarm, gently flowing water and mild soap for 5 minutes or until product is removed. If skin irritation occurs or you feel unwell: Get medical advice/attention.

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.

Most Important Symptoms and Effects, Both Acute and Delayed

Skin: Frequent and prolonged contact may cause mild skin irritation.

Eyes: Mild irritation of eyes and mucous membranes.

Inhalation: Exposure to high concentrations of vapor may include dizziness, nausea and headaches.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If ingested, seek immediate medical attention and have product container or label at hand.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, foam, water fog, ABC type Extinguisher.

Unsuitable Extinguishing Media

No data available.

Specific Hazards in Case of Fire

Burning may produce 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 (i.e., sanding, sawing, etc.) will increase fire hazard and should be handled accordingly.

Hazardous Combustion Products may include CO, HBr, CO₂.

Pentane vapors may be emitted from freshly produced foam. Vapors can be ignited by heat, sparks, flames or other sources of ignition.

Fire-fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water may also be used to cool exposed, but not burning, containers. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Isolate hazard area and keep unnecessary people away. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

Do not touch or walk through spilled material.

If spilled material is cleaned up using a regulated solvent, the resulting mixture may be regulated.

Recommended Equipment

If specialized clothing is needed, please refer to Section 8 for suitable and unsuitable materials.

Personal Precautions

Avoid breathing dust. Avoid contact with skin, eye or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions

Small pieces, particles and dust can be blown by the wind and enter storm water systems and waterways. Although the product is not hazardous excess product can result in impairment of storm water systems and waterways.

Methods and Materials for Containment and Cleaning up

Material can be swept or picked up and placed in a suitable container for disposal.

SECTION 7) HANDLING AND STORAGE

General

Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.

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

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight, strong oxidizers and any incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers can retain residue and may be dangerous.

Product will dissolve in hydrocarbons, esters, aldehydes and amines. Avoid contact with these materials.

SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection

Use approved safety glasses/goggles when sawing or sanding.

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers.

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

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

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.

Chemical Name	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)	OSHA STEL (mg/m3)	OSHA Carcinogen	OSHA Skin designation	OSHA Tables (Z1, Z2, Z3)	NIOSH TWA (mg/m3)	NIOSH TWA (ppm)	NIOSH STEL (mg/m3)	NIOSH STEL (ppm)	NIOSH Carcinogen
GRAPHITE		[15]; [15 mppcf]; [5];	15 (a) mppcf				[1]; [3];	2.5				
ISOPENTANE												
PENTANE		2950	1000				1	350	120			

Chemical Name	ACGIH TWA	ACGIH TWA	ACGIH STEL	ACGIH STEL	ACGIH	ACGIH	ACGIH

	(mg/m3)	(ppm)	(mg/m3)	(ppm)	TLV Basis	Carcinogen	Notations
GRAPHITE	2 (R)				Pneumococcosis		
ISOPENTANE		1000			Narcosis; resp tract irr		
PENTANE		1000			Narcosis; resp tract irr		

(R) - Respirable fraction, irr - Irritation, resp - respiratory

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	N/A
% Solids By Weight	N/A
Density VOC	N/A
% VOC	N/A
Specific Gravity (water = 1)	0.01 to 0.05

Appearance	Rigid cellular foam blocks, boards and shapes
Odor Threshold	N/A
Odor Description	Very slight hydrocarbon odour
pH	N/A
Water Solubility	Insoluble in water. Soluble in hydrocarbons, esters, aldehydes and amines.
Flammability	Flash Point at or above 200 °F
Flash Point Symbol	>
Flash Point	345°C / 653 °F (ASTM D1929)
Viscosity	N/A
Lower Explosion Level	N/A
Upper Explosion Level	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Freezing Point	N/A
Melting Point	Softening begins at temperatures > 85 °C (185 °F)
Low Boiling Point	N/A
High Boiling Point	N/A
Auto Ignition Temp	440 °C / 824 °F
Decomposition Pt	> 300 °C / 572 °F
Evaporation Rate	N/A
Coefficient Water/Oil	N/A

SECTION 10) STABILITY AND REACTIVITY

Stability

The product is stable under normal storage conditions.

Conditions to Avoid

Avoid heat, sparks, flame, high temperature, freezing and contact with incompatible materials.

Hazardous Reactions/Polymerization

No data available.

Incompatible Materials

Product will dissolve in hydrocarbons, esters, aldehydes and amines.

Hazardous Decomposition Products

Combustion products include carbon monoxide, carbon dioxide, styrene, hydrogen halide, nuisance particulates, carbon (soot) and pentane. Other undetermined hydrocarbon fractions could be released in trace quantities.

SECTION 11) TOXICOLOGICAL INFORMATION

Likely Route of Exposure

Inhalation, Ingestion, Skin contact, Eye contact.

Skin Corrosion/Irritation

Frequent and prolonged contact may cause mild skin irritation.

Aspiration Hazard

No data available

Serious Eye Damage/Irritation

Mild irritation of eyes and mucous membranes.

Carcinogenicity

No data available

Germ Cell Mutagenicity

No data available

Reproductive Toxicity

No data available

Respiratory/Skin Sensitization

No data available

Specific Target Organ Toxicity - Repeated Exposure

No data available

Specific Target Organ Toxicity - Single Exposure

No data available

Acute Toxicity

Exposure to high concentrations of vapor may include dizziness, nausea and headaches.

0000109-66-0 PENTANE

LC50 (rat): 117000 ppm (364000 mg/m³) (4-hour exposure) (12, unconfirmed)

0000078-78-4 ISOPENTANE

LC50 (mouse): 140,000 ppm (2-hour exposure).(3)

SECTION 12) ECOLOGICAL INFORMATION

Toxicity

No data available

Persistence and Degradability

No data available.

Bio-accumulative Potential

No data available.

Mobility in Soil

No data available.

Other Adverse Effects

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information

Status: Not Regulated
UN Number: N/A
Proper Shipping Name: N/A
Hazard Class: N/A
Packing Group: N/A
Hazardous Substance (RQ): N/A

IMDG Information

Status: Not Regulated
UN Number: N/A
Proper Shipping Name: N/A
Hazard Class: N/A
Packing Group: N/A
Hazardous Substance (RQ): N/A

IATA Information

Status: Not Regulated
UN Number: N/A
Proper Shipping Name: N/A
Hazard Class: N/A
Packing Group: N/A
Hazardous Substance (RQ): N/A

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0009003-53-6	POLYSTYRENE	98% - 99%	SARA312,IARCCarcinogen,TSCA
0007782-42-5	GRAPHITE	1.0% - 5%	SARA312,TSCA
0000109-66-0	PENTANE	0.0% - 1%	SARA312,VOC,TSCA
0003194-55-6	Cyclododecane, 1,2,5,6,9,10-hexabromo-	0.0% - 1.0%	SARA312,TSCA,REACH_SVHC - REACH_Substances of Very High Concern,REACH_SVHC_PBT - REACH_Substances of Very High Concern_PBT
1195978-93-8	Benzene, ethenyl-, polymer with 1,3-butadiene, brominated	0.0% - 1.0%	SARA312,TSCA,TSCA_UVCB - CHEMICAL SUBSTANCES OF UNKNOWN OR VARIABLE COMPOSITION, COMPLEX REACTION PRODUCTS AND BIOLOGICAL MATERIALS

SECTION 16) OTHER INFORMATION

Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- ESE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ- Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA- Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

HMIS

Health	/ 0
FLAMMABILITY	0
Physical Hazard	0
Personal Protection	

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks

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