



SAFETY DATA SHEET

Safety Data Sheet – Graphite Polystyrene (GPS) in Halo® Advanced Graphite Insulation System

SECTION 1 - IDENTIFICATION

Product identifier:	Halo® Exterra, Halo® Subterra
Other means of identification:	graphite polystyrene (GPS – EPS with graphite particles), rigid cellular foam insulation
Recommended use:	Exterior and interior continuous insulation for building envelopes, including foundation walls, above- and below-slab-on-grade.
Company:	Perma R Products PO Box 279 Grenada, MS, 38902 1-800-647-6130
Emergency telephone number:	Rick Wilbourn 1-800-647-6130

SECTION 2 – HAZARDOUS IDENTIFICATION

GHS classification:	None
Label elements:	None
Signal word:	None
Hazard statements:	None
Precautionary statements:	Keep away from heat/sparks/open flames/hot surfaces. - No smoking Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling Wear respiratory protection.
Other hazards:	May accumulate combustible dust particles when sanding or sawing in restricted or confined spaces. Residual off-gassing of blowing agent may occur in low toxicity levels under normal use conditions.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Content
Benzene Ethenyl-Homopolymer (Common Name: Polystyrene)	9003-53-6	> 90%
Pentane	109-66-0	>=3.0% - <7.0%
Isopentane	78-78-4	>=0.3% - <3.0%

SECTION 4 – FIRST AID MEASUREMENTS

Inhalation:	When hot-knifing vapors may cause irritation to nose and throat. Dizziness may occur in poorly ventilated areas when hot-knifing. Remove affected individual into fresh air and keep the person calm. If difficulties occur, seek medical attention.
Skin contact:	This material is not considered to be a skin irritant. In cases where irritation may occur to extra sensitive skin, wash with soap and water for several minutes. Get medical attention if skin irritation develops or persists.
Eye contact:	Flush eyes with water for several minutes. Get medical attention if eye irritation persists or particulates are difficult to remove from the eye.
Ingestion:	This material is not considered to be hazardous when ingested but may cause blockage of air passage if large pieces are ingested. Get medical attention and apply proper first aid for persons with air passage blocked.
Physical state:	Solid
Odor & appearance:	Slight hydrocarbon odor, Gray in color

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Use water spray, dry chemical, foam or carbon dioxide to extinguish flames.
Special protective equipment and precautions for fire-fighters:	Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.
Flash Point:	175 – 185 °C (347 – 365 °F), ASTM D3278
Autoignition:	285 °C (571 °F), DIN 51794
Lower explosion limit:	1.4 % (V) (air)
Upper explosion limit:	8.3 % (V) (air)
Flammability:	Not highly (UN Test N.1 (ready combustible solids))
Self-ignition temperature:	Not self-igniting
Further information:	Fire gives off black smoke consisting of carbon monoxide (< 10ppm), carbon dioxide (500ppm), oxides of nitrogen (4ppm), including trace of amounts of pentane, aldehydes and ketones. Fire hazards increase with presence of ignition sources or high concentrations of dust from work sites.



SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions:	Sources of ignition should be kept well clear. Maintain proper ventilation in areas prone to static discharge (high dust environment) or products prone to combustion.
Environmental precautions:	Do not allow to enter drains or waterways.
Methods and materials for containment and cleaning up:	Loose material can be vacuumed or swept and placed in disposal containers. This material can be disposed of in accordance with local, state/provincial and federal regulations. This material is not considered a hazardous waste.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling:	Take special precautions in handling and unloading product onto the construction site. When loading or unloading from trucks use either proper lifting equipment or use a minimum of 2 persons when manually loading or unloading pallets from trucks.
Conditions for safe storage (including incompatible materials):	Storage locations should be in an area that will minimize damage or soiling to products. Products can be exposed to UV or freezing rain or snow for prolonged periods. However, protection is recommended in cases where stored or installed products are exposed for more than 2 weeks. Keep products away from heat, sparks, flames or other ignition sources. Care should be taken to protect exposed foam surfaces from reflected sunlight and prolonged solar exposure until wall cladding or finish material is applied. Shade exposed foam areas, or remove sources of reflective surfaces, where heat buildup onto exposed foam might occur.

SECTION 8 – EXPOSURE CONTROL/PERSONAL PROTECTION

Eye protection:	Approved safety goggles when applying fasteners, sanding or sawing.
Skin protection:	Approved gloves and/or sleeves should be worn if sensitive to material composition of products.
Respiratory protection:	Approved dust mask when sanding, sawing or when working in high dust/particulates environment. In areas of high dust, vapor or mist content exceeding safe exposure limits use NIOSH or MSHA approved air purifiers or air supplied respirators.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Rigid cellular foam blocks and shapes. Gray in color.
Odor:	Faint odor.
Odor threshold:	N/A
pH:	N/A
Melting point/freezing point:	Softens at approximately 70 °C (160 °F)



Initial boiling point/boiling range:	N/A
Evaporation rate:	N/A
Flammability (solid, gas):	> 24% oxygen index (ASTM D2863)
Vapor pressure:	N/A
Vapor density:	N/A
Solubility:	Insoluble in water. Soluble with materials containing primarily of hydrocarbons, aldehydes, esters and amines.
Partition coefficient – n-octanol/water:	N/A
Viscosity:	N/A

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:	Products react to high temperatures and strong oxidizers.
Chemical stability:	Stable under normal use conditions.
Possibility of hazardous reactions:	None.
Conditions to avoid:	Avoid all sources of ignition, such as heat, sparks, open flame. Unstable when exposed to high temperatures. Recommended maximum use temperature of 60°C (166°F).
Incompatible materials:	Not compatible with materials containing primarily of hydrocarbons, aldehydes, esters and amines.
Hazardous decomposition products:	High heat or combustion produces black smoke consisting of carbon monoxide (< 10ppm), carbon dioxide (500ppm), oxides of nitrogen (4ppm), including trace of amounts of pentane, aldehydes and ketones.

SECTION 11 – TOXICOLOGICAL INFORMATION

Primary route of entry:	Eyes, skin and inhalation.
Effects of Acute Exposure:	
Eyes:	When hot-knifing material, vapors may cause irritation to eyes.
Skin:	This material is not considered to be a skin irritant. Products may contain small particulates of dust accumulated naturally from surrounding environment, which may cause skin irritation with possible mild discomfort on extra sensitive skin.
Inhalation:	When hot-knifing vapors may be cause irritation to nose and throat. Dizziness may occur in poorly ventilated areas when hot-knifing.
Effects of chronic exposure:	Exposure to vapors may aggravate existing respiratory conditions, such as asthma, bronchitis and inflammatory or fibrotic respiratory disease.

SECTION 12 – ECOLOGICAL INFORMATION

Non-biodegradable.



SECTION 13 – DISPOSAL CONSIDERATIONS

Loose material can be vacuumed or swept and placed in disposal containers.

This material can be disposed of in accordance with local, state/provincial and federal regulations. This material is not considered a hazardous waste.

SECTION 14 – TRANSPORT INFORMATION

N/A

SECTION 15 – REGULATORY INFORMATION

All ingredients listed with TSCA and DSL (Toxic Substances Control Act and Domestic Substances List, respectively)

EPCRA 311-312 (Emergency Planning and Emergency Right-to-Know Act): Not hazardous

Classified as non-hazardous with WHMIS.

SECTION 16 – OTHER INFORMATION

SDS updates: October 30, 2018 (first release)

TO THE BEST OF OUR KNOWLEDGE THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. HOWEVER, NEITHER THE ABOVE NAMED MANUFACTURER OR SUPPLIER NOR ANY OF ITS SUBSIDIARIES ASSUMES ANY LIABILITY WHATSOEVER FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION CONTAINED HEREIN. FINAL DETERMINATION OF SUITABILITY OF ANY MATERIAL IS THE SOLE RESPONSIBILITY OF THE USER. ALL MATERIALS MAY PRESENT UNKNOWN HAZARDS AND SHOULD BE USED WITH CAUTION. ALTHOUGH CERTAIN HAZARDS ARE DESCRIBED HEREIN, WE CANNOT GUARANTEE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.