



**Perma-Board P180 Combo
Base Sheet and Overlay Board
“Manufactured Article”**

SDS #: RBP003
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Revision Subject: Page 1, 3, 4

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 Product Identifier**
PERMA- BOARD P180 COMBO
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
Membrane and Cover Board Composite Panel
- 1.3 Details of the supplier of the safety data sheet**
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- 1.4 Emergency telephone number**
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SECTION 2: Hazards Identification

As defined in the OSHS Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. Also an SDS is not required by the REACH for this article. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS and CLP labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, this product is not expected to create any physical hazards or health risks to humans. Due to product form, exposure to dusts and fumes is not expected to occur.

Although these products are not subject to the OSHA Standard or GHS and CLP labeling elements, Hal Industries Inc. has prepared this Safety Data sheet in accordance with the formatting outlined in REACH Regulation (EC) No 1907/2006, and in CLP (Classification, Labeling & Packaging) Regulation (EC) No 1272/2008, to provide as much health and safety information as possible to ensure protection of people that come in contact with the material in manufacturing, handling, transporting, and installing, as well as the end users and the environment.

2.1 Classification of the substance or mixture

Classification in accordance with the Dangerous Preparation Directive 1999/45/EC

The product is an article, therefore no classification is required.

Classification in accordance with the Classification Labeling and Packaging Regulation EC No 1272/2008

The product is an article, therefore no classification is required.

2.2 Label Elements

Labeling in accordance with the Classification Labeling and Packaging Regulation EC No 1272/2008

None required.

2.3 Other Hazards

All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, this product is not expected to create any physical hazards or health risks to humans. Due to product form, exposure to dusts and fumes is not expected to occur.

Effect of Acute Exposure to Product/or the Raw Materials:

This manufactured article as produced and when used under ambient conditions poses no health hazard. However, if the product is heated beyond 200°C or if it catches fire, then the major constituent asphalt emanates slightly irritating fumes. Melted asphalt (bitumen) from the product could act as a fuel and contribute to fire.

NIOSH has found that studies of workers exposed to asphalt fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

Eyes: Asphalt fumes are moderately irritating to the eyes.

Skin: Exposure to hot material causes thermal burns. May cause irritation to the skin if dust is generated.

Ingestion: Ingestion is unlikely.

Inhalation: Prolong inhalation of fumes from hot asphalt causes nausea, headache and dizziness. Exposure to dust generated during the production, handling or use of the product may cause temporary irritation to eyes, skin, nose, throat, and upper respiratory tract. Persons subjected to large amounts of this dust will be forced to leave area because of nuisance conditions such as coughing, sneezing and nasal irritation.

Carcinogenicity: This manufactured article as produced and when used under ambient conditions poses no health hazard. The information provided here pertains to its raw materials.

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A). IARC concluded that available data from cancer studies in humans points to an association between exposure to oxidized asphalts during roofing and lung cancer and tumors in the upper aero-digestive tract. In addition, IARC found sufficient evidence of carcinogenicity in experimental animals for extracts and fume condensates of oxidized asphalts.

Dust generated from the fiberglass mat during the production and handling may contain respirable crystalline silica. IARC has determined that respirable crystalline silica is carcinogenic to humans (Group 1). Also NTP has classified respirable crystalline silica as known human carcinogen. NIOSH has determined that respirable crystalline silica is a potential occupational carcinogen.

NIOSH has concluded that the collective data from human, animal, genotoxicity and exposure studies provide sufficient evidence that roofing asphalt fumes are a potential occupational carcinogen.

HAZARD RATING (NFPA)

HAZARD RATING (HMIS®)

HEALTH	1			HEALTH	1	
FLAMABILITY	1			FLAMABILITY	1	
REACTIVITY	0			PHYSICAL HAZARD	0	
SPECIAL NOTICE	-			PERSONAL PROTECTION	x	

NFPA - National Fire Protection Association

HMIS® is a registered trademark of the American coating Association

Degree of Hazard

0 - Minimal (Insignificant)

1 - Slight

2 - Moderate

3 - Serious (High)

4 - Severe (Extreme)

SECTION 3: Composition / Information on Ingredients

3.1 Substances

Not applicable, product is an article.

3.2 Mixtures

The product is not a mixture under the CLP Regulation (EC) No 1272/2008 and OSHA Hazard Communication Standard, 29 CFR 1910.1200, but is considered to be an article.

The product consists of a mixture of asphalt, rubber and inert mineral filler bonded to fiberglass mats, and laminated with a polymer modified asphalt base sheet. Perma-Board P180 Combo presents no inhalation hazard as supplied, however some process activities may result in the generation of either inhalable particles (use of power tools for cutting, grinding, etc.) or inhalable fumes from heating. The following information is provided to assist employers with assessing any process generated hazards.

Ingredients	CAS Number	% (w/w)	Occupational Exposure Limits		
			OSHA	ACGH	OTHER
Oxidized Asphalt	64742 - 93 - 4	40 - 65%	Not established	0.5 mg/m ³ (inhalable fraction, as benzene-soluble aerosol)	5 mg/m ³ – ceiling (15 min. fumes)
Limestone	1317 - 65 - 3	23 - 43 %	5 mg/m ³ - resp. 15 mg/m ³ - total	3 mg/m ³ - resp. 10 mg/m ³ - total	REL: 5 mg/ m ³ - resp. 10 mg/m ³ - total
Recycled Crumb Rubber	Not regulated	0 - 10 %	Not established	Not established	Not established
Fiberglass Mat	65997 - 17 - 3 for continuous glass fibers	10 - 17%	1 f/cc - resp.	1 f/cc - resp.	REL: 5 mg/m ³ - total fibers
Cured Urea Formaldehyde binder (used in fiberglass mat)	9011 - 05 - 6 For monomer formaldehyde	2 - 3.5 % polymer. (Monomer negligible)	Not established	Not established	Monomer LD50 = 10ppm
Styrene butadiene copolymer	9003-55-8	3 - 7%	10 mg/m ³	10 mg/m ³	Not established
Polyester Mat	None	1 - 5%	Not established	Not established	Not established
Polypropylene Film	None	0.1 - 1	Not established	Not established	Not established
Sand	None	0.1 - 1	0.1 mg/ m ³	0.1 mg/ m ³	Not established
Can contain crystalline silica	14808-60-7	0.1 - 1	0.025 mg/m ³	0.025 mg/m ³	Not established

NE = Not Established

SECTION 4: First Aid Measures

4.1 Description of First Aid measures

- Eye Contact:** For contact with cold material, e.g. small particles, wash thoroughly with water and obtain medical attention if signs of discomfort persist.
In case of contact with hot material, flood eye with copious quantities of cold water for 10- 15 minutes. Do not try to remove material adhering to the eye. Cover the burn area loosely with a sterile dressing, if available. Seek immediate medical attention.
- Skin Contact:** For contact with hot material, cool the affected area under cold running water for at least 10 minutes. Do not attempt to remove anything from the burn area. Material adhering to skin will form a sterile barrier, which will fall off after a few days. If requires removing, use baby oil. Do not use solvents and thinners to clean the skin. Cover the burn area loosely with a sterile dressing. Seek medical attention.
- Inhalation:** In case of inhalation of fumes, remove victim to fresh air. If breathing is difficult, give oxygen and get medical attention.
- Ingestion:** If swallowed, do not induce vomiting. Keep at rest. Get immediate medical attention.

4.2 Most Important Symptoms and Effects, both Acute and Delayed

- Eyes:** Particulates produced from cutting, grinding or drilling of the product may cause physical irritation of the eye. Hot melt products may cause thermal burns.
- Skin:** This product may be abrasive to skin. Rubbing may increase skin irritation. Hot melt products may cause thermal burns.
- Ingestion:** Not a likely route of entry.
- Inhalation:** Inhalation of dusts produced during cutting, grinding or sanding of this product or fumes from hot melt products may cause irritation of the mouth and nose and coughing.

4.3 Indication of Any immediate Medical Attention and Special treatments Needed

Symptomatic treatment as required.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

Use any media suitable for surrounding fires. Water, spray, fog, carbon dioxide (CO₂), dry chemical, foam.

5.2 Special Hazards Arising from the Substance or Mixture

Standard bitumen based roofing membranes are combustible and release dense black smoke when they burn. In Permaboard, asphalt coating is sandwiched between two fiberglass sheets, which will enhance its performance in fire. The hazardous combustible products are carbon dioxide, carbon monoxide and traces of oxides of sulphur.

5.3 Advice for Fire Fighters

Firefighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Firefighters should avoid inhaling any combustion products. Do not release chemically contaminated water into drains, soil or surface water.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

None usually necessary. If there are significant quantities of dust/shavings wear safety glasses with side-shields or safety goggles and gloves. During the production wear goggles and gloves.

6.2 Environmental Precautions

None usually necessary. During the production, asphalt fumes are collected and burned.

6.3 Methods and Materials for Containment and clearing up

Sweep up or gather material and place in appropriate container for disposal.

6.4 References to Other sections

See section 8 and 13 for further advice on protective clothing and disposal.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

Customary personal hygiene measures, such as washing hands after working with this product is recommended. If dusts or fumes of this product are generated, avoid inhalation, skin and eye contact.

7.2 Conditions for Safe Storage, Including any Incompatibility

Store at room temperature under normal conditions. Warehouse storage should be in accordance with package directions. Material should be kept dry, and protected from the elements.

7.3 Specific End Uses

No special requirements.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

No specific exposure limits available.

This product as produced and when used under ambient conditions poses no health hazard. The asphalt fumes generated during the process are isolated and burned. The WELs for asphalt, petroleum fumes (bitumen) are 5 mg/ m³ (8-hours TWA) and 10mg/ m³ (15 min ref period).

8.2 Exposure Controls

Engineering Control: No special protective measures are necessary for use of this product in that it is an article, and as such under normal ambient conditions of use is not expected to release, or otherwise result in exposure to a hazardous chemical. If cutting, grinding, drilling, etc. ensure that there is adequate ventilation to keep dust levels within required limits.

Should the product catch fire through external source remain upwind of the fire. Avoid skin and eye contact. Avoid inhalation of fumes.

Personal Protective Equipment:

Eyes/Face: Where there is a risk of damage to the eyes/face from splashing of hot asphalt or impact, wear eyes/face protection to EN166.

Skin: The use of heavy duty gloves to protect against abrasion and burns through contact with hot bitumen or flame of gas torch during installation is recommended.

Respiratory: Not required under normal conditions of use. If dust or fumes are generated, wear appropriate respiratory protection.

Environmental Exposure Controls: Not usually required.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance:	Solid -black sheet film surfaced or sand surfaced.
Odour:	None
Odour threshold:	Not applicable
pH:	Not applicable
Boiling point:	Not applicable, asphalt's boiling point = 400 °C
Melting point:	Not applicable
Flash point:	Not applicable, asphalt's flash point = 265 °C
Evaporation rate:	Not applicable
Flammability (gas, solids):	Standard bitumen based roofing membranes are combustible. Permaboard due to its two layers of fiberglass performs significantly better in fire.
Upper/lower flammability limits:	Not applicable
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Specific Gravity:	Not applicable
Solubility (H₂O):	Not soluble
Solubility in other solvents:	Not applicable
Auto ignition temperature:	No data
Decomposition temperature:	No data
Viscosity:	Not applicable
Explosive properties:	Not classified as explosive
Oxidizing properties:	Not classified as oxidizing

9.2 Other Information

None

SECTION 10: Chemical Stability and Reactivity

10.1 Reactivity

Not considered a reactive material

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of Hazardous Reactions

None expected.

10.4 Conditions to Avoid

None identified.

10.5 Incompatible Materials

None identified.

10.6 Hazardous Decomposition Products

Bitumen fumes and dense black smoke if heated to excessive temperatures.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

This product is an article and as such has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

- (a) **Acute toxicity** Solid at room temperature, not expected to present an acute toxicity hazard. Inhalation of fumes may result in irritation, especially if the product is overheated above recommended temperatures.
- (b) **Skin corrosion/irritation** Physical abrasion may occur in contact with skin. Thermal burns when handled at elevated temperatures.
- (c) **serious eye damage/irritation** Solid @ RT. Not expected to present a hazard to the eyes. Physical irritation may occur in contact with particles. Thermal burns when handled at elevated temperatures.
- (d) **Respiratory/skin sensitization** Not considered to be a skin or respiratory sensitizer.
- (e) **Germ cell mutagenicity** Contains no components known to be mutagenic.
- (f) **Carcinogenicity** Bitumen may contain substances including Polyaromatic hydrocarbons (PAHs), some types of which have been associated with cancer. However, long-term studies of bitumen and asphalt workers have not demonstrated any increased cancer risks from the use of these products, and bitumen has been classified by IARC as Group 3, Not classifiable as to its Carcinogenicity to humans.
- (g) **Reproductive toxicity** Contains no components known to be hazardous to reproduction.
- (h) **STOT- single exposure** In BUR or torch-on applications, inhalation of fumes may result in irritation, especially if the product is overheated above recommended temperatures.
- (i) **STOT- repeated exposure** No chronic health effects are expected from the normal use of this product.
- (j) **Aspiration hazard** Not relevant.

SECTION 12: Ecological Information

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

12.1 Toxicity

Not expected to be toxic to the environment.

12.2 Persistence and Degradability

Not expected to be biodegradable.

12.3 Bioaccumulative Potential

Not expected to bioaccumulate.

12.4 Mobility in Soil
Not expected to be mobile in the environment.

12.5 Results of PBT and vPvB assessment
Not applicable

12.6 Other adverse Effects
Not Known

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods
Dispose of it in accordance with local regulations.

SECTION 14: Transport Information

Not considered to be dangerous goods for transport.

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture
All components are listed as existing substances in USA & Europe.

15.2 Chemical Safety Assessment
A "Chemical Safety assessment" has not been carried out for this product.

SECTION 16: Other Information

Other Information:

This safety data sheet is prepared in accordance with the formatting described in Commission Regulation (EU) No 453/2010.

List of Abbreviations used in this SDS:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CLP	Classification, Labeling and Packaging Regulation (EC) No 1272/2008
DSD	Dangerous Substances Directive 67/548/EEC
DPD	Dangerous Preparation Directive 1999/45/EC
EC	European Community/Commission
GHS	Globally Harmonization System
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulations (EC) No 1907/2006
TLV	Threshold Limit Values
vPvB	very Persistent, very Bioaccumulative
WELs	Workplace Exposure Limits

Disclaimer:

The technical information herein is believed to be accurate and reliable as of the date compiled. The information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. It is offered for your consideration, investigation and verification. Buyer assumes all risk of storage, handling and use of product. No representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing contained herein shall be construed as license to operate under recommendation to infringe any patents.

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