



Material Safety Data Sheet

Material Name: PermaMop® Low Fuming Asphalt (Non-bulk)

MSDS No.: 15-MSD- 24889-01-C

*** Section 1 - Chemical Product and Company Identification ***

Product Name(s): PermaMop® Low Fuming Asphalt (Non-bulk)

Owens Corning
One Owens Corning Parkway, World Headquarters
Attn. Product Stewardship
Toledo, OH 43659, USA

Emergency Contacts:

Emergencies ONLY (after 5pm ET and weekends): 1-419-248-5330,
CHEMTREC (24 hours everyday): 1-800-424-9300,
CANUTEC (Canada - 24 hours everyday): 1-613-996-6666.

Health and Technical Contacts:

Health Issues Information (8am-5pm ET): 1-800-GET-PINK,
Technical Product Information (8am-5pm ET): 1-800-GET-PINK.

*** Section 2 - Composition / Information on Ingredients ***

| CAS # | Component | Percent by Wt. |
|------------|-------------------------------|----------------|
| 64742-93-4 | Asphalt, oxidized | 95-99 |
| 110-30-5 | N,N'-Ethylenebis (stearamide) | 1-5 |

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Asphalt (8052-42-4), Nuisance particulates.

Component Information/Information on Non-Hazardous Components

Note: See Section 8 of MSDS for exposure limit data for these ingredients.

Appearance and Odor: Brown to black molten liquid or solid with petroleum odor.

*** Section 3 - Hazards Identification ***

Emergency Overview

Upon heating, hydrogen sulfide gas may be released from this product. Vapor spaces in tanks and shipping containers containing hot asphalt or asphalt products may accumulate hydrogen sulfide vapors at harmful concentrations.

Potential Health Effects

Inhalation:

Inhalation of vapors, fumes or mists of the product may be irritating to the respiratory system. See Section 8 for exposure controls

Based on a 2000 review of health effects literature, NIOSH concluded that roofing asphalt fumes are a potential occupational carcinogen.

Studies of workers exposed to asphalt fumes have not established an association between asphalt fumes and cancer and other lung diseases in man. See Section 11 of MSDS for additional toxicological data.



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Skin Contact:

Contact with hot product may cause thermal burns. Prolonged or repeated contact may cause dryness and irritation of the skin. Long-term skin exposure to asphalt can increase sensitivity to the sun, and may cause discoloration.

Eye Contact:

Fumes from this product may cause severe irritation, redness, or blurred vision. Contact with hot product may cause thermal burns and severe eye damage.

Ingestion:

This product may be harmful or fatal if swallowed. May cause dizziness, incoordination, headache, nausea, and vomiting. Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury.

Medical Conditions Aggravated by Exposure:

Chronic respiratory or skin conditions may temporarily worsen from exposure to these products.

* * * Section 4 - First Aid Measures * * *

Inhalation:

Move person to fresh air. Administer cardiac or pulmonary resuscitation (CPR) if a pulse is not detectable or if unable to breathe. Provide oxygen if breathing is difficult. Obtain immediate medical assistance.

Skin Contact:

If hot material strikes the skin, immediately drench or immerse the area in water to assist cooling. If available, apply iced water or ice packs to the burned area. DO NOT try to remove asphalt from a burn after it has cooled. Seek medical attention. Medical personnel can soften and remove cooled asphalt with petroleum jelly or mineral oil. For contact with cold material, clean exposed skin with waterless hand cleaner, then wash with mild soap and water. If irritation persists, seek medical attention.

Eye Contact:

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

Ingestion:

DO NOT induce vomiting. Prevent aspiration of material into lungs. Seek immediate medical attention.

Notes to Physician:

This material, if aspirated into the lungs, may cause chemical pneumonitis; treat the affected person appropriately.

* * * Section 5 - Fire Fighting Measures * * *

| | | | |
|----------------------------------|----------------|-------------------------------------|---------------|
| Flash Point: | >525°F (274°C) | Flash Point Method: | C.O.C. |
| Upper Flammability Limit: | Not available | Lower Flammability Limit: | Not available |
| Rate of Burning: | Not available | Flammability Classification: | Combustible |
| Auto Ignition Temp.: | >650°F (343°C) | | |

Extinguishing Media:

Dry chemical, foam, and carbon dioxide. Use water to cool fire-exposed containers and to protect personnel.



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Unusual Fire & Explosion Hazards:

Treat as a hydrocarbon type fire. Hot asphalt may ignite flammable materials on contact. DO NOT direct water into a container or directly onto hot asphalt, a vessel or a storage tank containing hot asphalt as it may cause violent eruptions and spreading of hot asphalt.

Fire-Fighting Instructions:

Use self-contained breathing apparatus (SCBA) and full bunker turnout gear in a sustained fire. Wear protective clothing ensemble as defined in NFPA 1500 (1997, or as updated).

Hazardous Combustion Products:

Primary combustion products are carbon monoxide, carbon dioxide and water. Combustion products may include sulfur oxides and hydrogen sulfide. Other undetermined compounds could be released in small quantities.

*** Section 6 - Accidental Release Measures ***

Containment Procedures:

Contain spills with an inert absorbent material such as soil, sand or oil dry.

This material will settle out of the air. It can then be scooped up or vacuumed for disposal as a non-hazardous waste. This material will sink and disperse along the bottom of waterways and ponds. It cannot easily be removed after it is waterborne; however, the material is non-hazardous in water.

Clean-Up Procedures:

Solidify with inert absorbent material such as sand or oil dry, pick up and put into suitable container for disposal. Check with local authorities for approval to dispose of this material.

Response Procedures:

Isolate area. Keep unnecessary personnel away.

Special Procedures:

None.

*** Section 7 - Handling and Storage ***

Handling Procedures:

Do not get this material in your eyes or on your skin and minimize exposure to fumes. Wash exposed areas thoroughly after handling this product. Keep this product from sparks or open flame. Use this product with adequate ventilation. Avoid heating asphalt within 25°F of actual flashpoint

Hydrogen sulfide may be emitted from heated asphalt and may accumulate in storage tanks and bulk transport containers. Prolonged breathing (greater than 1 hour) of concentrations of hydrogen sulfide around 50 ppm can produce eye and respiratory tract (mouth, nose, and throat) irritation, and at high concentrations (around 300 ppm) is considered immediately dangerous to life and health.

Since the sense of smell becomes rapidly insensitive to hydrogen sulfide, its odor cannot be relied upon as an indicator of its concentration. Always use caution when working around closed bulk containers of asphalt. Use ventilation or work upwind from source of fumes or vapors. Use supplied air respirators or self-contained breathing apparatus if the PEL or TLV for hydrogen sulfide (10 ppm, 8hr TWA) is exceeded.

See Appendix for suggestions regarding how to avoid building odor complaints for hot applied roofing applications



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Storage Procedures:

Store hot product in a well-ventilated area.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines:

A: General Product Information

Follow all applicable exposure limits.

Notes:

The values published below, by ACGIH, in parentheses are limit values for which a change in the Adopted listing has been proposed.

Exposure Limits For Chemicals, Which May Be Released During Use

ACGIH and OSHA exposure limit lists have been checked for those components, which may be released during use.

Hydrogen sulfide (7783-06-4)

ACGIH: (10 ppm) TLV-TWA
(15 ppm) TLV-STEL

OSHA: 20 ppm PEL-Ceiling
50 ppm PEL-Ceiling Peak acceptable for 10 minutes/8 hour shift.

B: Component Exposure Limits

ACGIH and OSHA exposure limit lists have been checked for those components with CAS registry numbers.

Asphalt, oxidized (64742-93-4)

ACGIH: 0.5 mg/m³ TLV-TWA, as a benzene-extractable, inhalable particulate (or equivalent method)

OSHA: Total dust: 15 mg/m³ PEL-TWA; respirable fraction: 5 mg/m³ PEL-TWA (related to particulates not otherwise regulated, PNOC)

Ventilation:

Provide sufficient local and/or general exhaust ventilation to maintain exposure levels below the PELs or TLVs.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection:

If ventilation is not sufficient to control exposures below TLV or PEL, use an appropriate properly fitted NIOSH approved respirator. If irritation occurs or if the PEL or TLV for asphalt fume is exceeded, use a NIOSH approved air purifying respirator with a P95 particulate cartridge or prefilter. An air-purifying respirator with a charcoal cartridge should be used to control exposures to odors or hydrocarbons.

In situations where the concentration of hydrogen sulfide exceeds the PEL or TLV, supplied air respirators or self-contained breathing apparatus are required.

Use respiratory protection in accordance with your company's respiratory protection program, local regulations or OSHA regulations under 29 CFR 1910.134.

Skin Protection:

A loose fitting, long sleeved cotton shirt and long cotton pants are recommended. Heat insulated, leather or lined neoprene coated gloves should be worn when working with hot asphalt materials.

Eyes/Face Protective Equipment:

Wear safety glasses or goggles. Also wear a face shield where a splash hazard exists.



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Work Practices:

Handle with good industrial hygiene and safety practices. These include avoiding any unnecessary exposure and removal of the material from the skin, eyes and clothing. Wash hands and arms frequently, shower after exposure and wash work clothes when soiled.

In case of exposure to or contact with hot asphalt, see Section 4.

*** Section 9 - Physical & Chemical Properties ***

| | | | |
|---------------------------------------|------------------------|-------------------------------------|----------------|
| Appearance: | Brown to black | Odor: | Petroleum |
| Physical State: | Solid or molten liquid | pH: | Not applicable |
| Vapor Pressure (mm Hg @ 20 C): | 3 mm Hg @20°C | Vapor Density (Air=1): | Not applicable |
| Boiling Point: | >1000°F (>538°C) | Solubility (H₂O): | Insoluble |
| Specific Gravity (Water=1): | Not applicable | Freezing Point: | Not available |
| Viscosity: | Not applicable | Percent Volatile: | Not available |

Physical Properties: Additional Information

No additional information available.

*** Section 10 - Chemical Stability & Reactivity Information ***

Stability:

This is a stable material.

Conditions to Avoid:

Do not allow hot, molten asphalt to contact water as this may cause violent eruptions and spreading of hot asphalt.

Incompatible Materials:

This product may react with strong oxidizing agents and water.

Hazardous Decomposition Products:

Primary combustion products are carbon monoxide, carbon dioxide and water. Combustion products may include sulfur oxides and hydrogen sulfide.

Hazardous Polymerization:

Will not occur.

*** Section 11 - Toxicological Information ***

Acute and Chronic Toxicity:

A: General Product Information

Contact with hot product may cause thermal burns. Long-term skin exposure to asphalt can increase sensitivity to the sun and cause discoloration. If ingested, may cause mouth, throat and gastrointestinal tract irritation and upset with possible nausea, vomiting and diarrhea. Small amounts of this product, if aspirated into the lungs, may cause mild to severe injury. See Section 8 for exposure controls.

LD50/LC50 For Chemicals, Which May Be Released During Use

Hydrogen sulfide (7783-06-4)

Inhalation LC50 Rat: 444 ppm

Inhalation LC50 Mouse: 634 ppm/1H



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B: Component Analysis - LD50/LC50

No LD50/LC50's are available for this product's components.

Carcinogenicity:

A: General Product Information

Roofing Asphalt: In March, 1987, the International Agency for Research on Cancer (IARC) classified bitumens (such as petroleum asphalt in this product) as a Group 3 material, "not classifiable as to its carcinogenicity to humans." This classification was made based on inadequate evidence for the carcinogenicity of undiluted air-refined bitumens in experimental animals and inadequate evidence that bitumens alone are carcinogenic to humans. However, asphalt does contain a trace amount of polycyclic aromatic hydrocarbons. Some polycyclic aromatic hydrocarbons have been shown to cause cancer and respiratory damage.

Based on a 2000 review of health effects literature, NIOSH concluded that roofing asphalt fumes are a potential occupational carcinogen.

B: Component Carcinogenicity

ACGIH, IARC, OSHA, and NTP carcinogen lists were checked for those components with CAS registry numbers.

Asphalt, oxidized (64742-93-4)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (Benzene-soluble aerosol, related to Asphalt fumes)

IARC: Supplement 7, 1987; Monograph 35, 1985 (related to Bitumens, steam-refined, cracking-residue and air-refined, Group 3 (not classifiable))

*** Section 12 - Ecological Information ***

Ecotoxicity:

No data available for this product. This product is not expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions:

A: General Product Information

Material, if discarded, is not a characteristic hazardous waste under RCRA.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions:

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

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Not regulated as hazardous material for transportation.

Additional Info.: None

TDG Information

Shipping Name: Not regulated as hazardous material for transportation.

Additional Info.: None



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Additional Transportation Regulations:
No additional information available.

***** Section 15 - Regulatory Information *****

US Federal Regulations:

A: General Product Information

OSHA status: This product is considered hazardous under 29CFR 1910.1200 (Hazard Communication).

B: Component Analysis

This material contains a trace amount of Polycyclic Aromatic Compounds (PACs) listed under SARA 313. For SARA 313 reporting information, see the following website: <http://www.trumbullasphalt.com>

SARA 311/312

Acute Health Hazard: Yes
Chronic Health Hazard: Yes
Fire Hazard: No
Sudden Release of Pressure Hazard: No
Reactive Hazard: No

C: Clean Air Act

None of this product's components are listed on the Clean Air Act-1990 Hazardous Air Pollutants List.

State Regulations:

A: General Product Information

No additional information available.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

| Component | CAS # | CA | FL | MA | MN | NJ | PA |
|---|------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Asphalt, oxidized (1 related to Asphalt (petroleum fumes) (2 related to Asphalt fumes) (3 related to Asphalt) | 64742-93-4 | Yes ¹ | Yes ² | Yes ² | Yes ¹ | Yes ² | Yes ³ |

This product contains chemicals in trace quantities that are on the California Proposition 65 carcinogens list.

Other Regulations:

A: General Product Information

All components are either listed on the US EPA TSCA Inventory, or are exempt from listing.

All components are either listed on the Canadian DSL, or are exempt from listing.

B: Component Analysis - Inventory

| Component | CAS # | TSCA | DSL | EINECS |
|------------------------------|------------|------|-----|--------|
| Asphalt, oxidized | 64742-93-4 | Yes | Yes | Yes |
| N,N'-Ethylenebis(stearamide) | 110-30-5 | Yes | Yes | Yes |

C: Component Analysis - WHMIS

WHMIS Status: Not Controlled

WHMIS Classification: None



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*** Section 16 - Other Information ***

| HMIS and NFPA Hazard Ratings: | Category | HMIS | NFPA |
|-------------------------------|--------------|------|------|
| | Health | 1* | 1 |
| | Flammability | 1 | 1 |
| | Reactivity | 0 | 0 |

NFPA Unusual Hazards: **W**, (No water)

HMIS Personal Protection: To be supplied by user depending upon use.

Key/Legend:

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act; DSL = Canadian Domestic Substance List; EINECS = European Inventory of New and Existing Chemical Substances; WHMIS = Workplace Hazardous Materials Information System; CAA = Clean Air Act

Revision Summary:

This is a revised MSDS, which replaces 15-MSD-24889-01-B with updated composition and contact information. Read this information carefully.

Get OC MSDS electronically via Internet: <http://www.owenscorning.com> or by calling 1-800-GET-PINK.

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.



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APPENDIX

How to Avoid Building Odor Complaints

Hot Applied Roofing Applications

- Effective communication with building occupants before & during project.
- Use a low fuming asphalt product such as TruLo® or TruMelt®
- Control kettle temperature to reduce risk of kettle fires and fume emissions. Operate kettles at the lowest possible temperature that allows proper application. Avoid heating asphalt within 25°F of actual flash point.
- Kettles should have tight fitting lids and be used in well-ventilated areas.
- Locate kettle down wind from building air intakes, doors or other openings
- Pre-plan the job with contractors, building owners/operators & facility maintenance or engineering.
- Evaluate need for controls to reduce potential for fumes to enter air intakes or building entryways, such as:
 - Use portable fans or other engineering controls to direct fumes away from operating air intakes or building openings
 - Ventilation System Modifications
 - Consider blocking air or sealing off intakes when feasible.
 - Alter the building ventilation system to create positive pressure
 - Consider shut down of some or all air handlers for critical times
 - Use of alternate work schedules (after hours or during minimized occupancy times) to mop near air intakes or building openings

This is the end of MSDS # 15-MSD-24889-01-C