SAFETY DATA SHEET

Creation Date 25-Jun-2000 **Revision Date** 18-Nov-2015 **Version** 2

1. IDENTIFICATION

Product Name PermaMop® Low Fuming Asphalt

Synonyms Wax modified asphalt used in roofing

Product Code OCRA00021

Recommended Use For use in built-up roof construction, construction of some modified bitumen systems, construction of bituminous water retarder systems, for adhering fleece backed single ply roof membranes, and for adhering insulation boards used in various types of roof systems

UN/ID no. UN3257

Manufacturer Address Owens Corning Roofing and Asphalt, LLC
One Owens Corning Parkway
Toledo, Ohio 43659

Company Phone Number 1-800-GET-PINK or 1-800-438-7465
24 Hour Emergency Phone Number Chemtrec 1-800-424-9300
Emergency Telephone 1-419-248-5330 (after 5 pm ET and weekends)

E-mail address safetydatasheet@owenscorning.com
Company Website http://owenscorning.com/

2. HAZARDS IDENTIFICATION

OSHA Regulatory Status This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1B

Label elements

Danger

Hazard statements
Causes skin irritation
Causes serious eye irritation
May cause cancer

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
If exposed or concerned: Get medical advice/attention
Specific treatment (see .? on this label)

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Precautionary Statements - Storage Store locked up

Precautionary Statements - Disposal Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
• Contact with product at elevated temperatures can result in thermal burns
• Dangerous amounts of Hydrogen Sulfide, a highly toxic gas, may be present in the headspace of heated containers.
• This petroleum based product may contain trace amounts of polycyclic aromatic compounds (PACs) including polynuclear aromatic hydrocarbons (PAHs) which can be released when product is heated.

Unknown acute toxicity
• No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture
Components

Chemical Name	CAS No.	Weight-%	Trade Secret
Asphalt, oxidized (roofing)	64742-93-4	90-100	*
N,N'-Ethylenebis(stearamide)	110-30-5	0-10	*

• *The exact percentage (concentration) of composition has been withheld as a trade secret

Comments
The remaining components of this product are non-hazardous or are in a small enough quantity as to not meet regulatory thresholds for disclosure. These components contain no substances or impurities which would influence the classification of this product.

4. FIRST AID MEASURES

Description of First Aid Measures

Eye contact
• Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes
• If eye irritation persists: Get medical advice/attention

Skin contact
• **HOT MATERIAL:**
• Immediately drench or immerse area in water to assist in cooling.
• Apply iced water or ice packs to burned area.

	• **DO NOT**use iced water or ice packs if the burned area covers more than 10% of the body, as this may contribute to shock. • **DO NOT**try to remove product from burned area after it has cooled. • Seek immediate medical attention/advice • Medical personnel can soften and remove cooled product with petroleum jelly or mineral oil. • **COLD MATERIAL:** • Clean exposed skin with mild soap and water. • If skin irritation persists, call a physician
Inhalation	• If respiratory symptoms develop, move victim to fresh air away from source of exposure and into fresh air. • If symptoms persist, call a physician • If breathing is difficult, give oxygen • If breathing has stopped, give artificial respiration. Get medical attention immediately
Ingestion	• **DO NOT** induce vomiting • Drink 1 or 2 glasses of water • If vomiting occurs naturally have the person lean forward to reduce the risk of aspiration. • Get medical attention
Note to physicians	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	• Treat as fuel oil or hydrocarbon fire. • Use extinguishing measures that are appropriate to local circumstances and the surrounding environment • Foam • Dry chemical • Carbon dioxide (CO2) • Use water spray or fog; do not use straight streams • Use water to cool fire-exposed containers and to protect personnel.
Unsuitable extinguishing media	• Do not use a solid water stream as it may scatter and spread fire
Specific hazards arising from the chemical	• Hot product may ignite flammable materials on contact.
Hazardous combustion products	• Carbon monoxide • Carbon dioxide (CO2) • Oxides of sulfur • Hydrogen sulfide

Explosion data

Sensitivity to Mechanical Impact	• None
Sensitivity to Static Discharge	• None

Protective equipment and precautions for firefighters	• As in any fire, wear self-contained breathing apparatus (positive-pressure), MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	• Avoid contact with eyes and skin • Evacuate personnel to safe areas
Environmental precautions	• Prevent further leakage or spillage if safe to do so

• Avoid runoff into storm sewers, ditches and waterways.
• See Section 12 for additional ecological information

Methods and material for containment and cleaning up

Methods for containment
• Contain spill with an inert absorbent material such as soil, sand or oil dry.
• Prevent from spreading by covering, diking or other means.

Methods for cleaning up
• Use personal protective equipment as required
• Dam up
• Cover liquid spill with sand, earth or other non-combustible absorbent material
• Take up mechanically, placing in appropriate containers for disposal
• Clean contaminated surface thoroughly

7. HANDLING AND STORAGE

Precautions for safe handling
• Handle in accordance with good industrial hygiene and safety practice
• Hydrogen sulfide, an extremely flammable, colorless, highly toxic gas is emitted from heated asphalt and may accumulate in storage tanks or bulk transport containers.
• Avoid contact with skin, eyes or clothing
• Avoid breathing fumes from hot material

Conditions for safe storage, including any incompatibilities

Storage Conditions
• Keep in a dry, cool and well-ventilated place
• Assure proper ventilation of storage or shipping containers to prevent accumulations of hazardous concentrations of off-gassed hydrocarbon gas or H2S

Incompatible materials
• Strong oxidizing agents
• Water

Other Information
Heating - Correct application temperature is Equivicous Temperature (EVT) which is the temperature that the asphalt in the mop bucket or mechanical spreader must be at to achieve asphalt consistency or viscosity necessary to ensure that the correct amount of asphalt is applied to the roof. Minimize temperature to which product is heated in the kettle to obtain EVT during application in order to maintain quality of installed material and reduce hazard from fumes, hydrogen sulfide, kettle cooking and kettle flashes. Maximum kettle temperature should be 25°F less than flashpoint to control generation of fumes and to avoid possible explosion hazard but the product should never be heated over 475°F regardless of flashpoint.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
Hydrogen sulfide 7783-06-4	STEL: 5 ppm TWA: 1 ppm	(vacated) TWA: 10 ppm (vacated) TWA: 14 mg/m³ (vacated) STEL: 15 ppm (vacated) STEL: 21 mg/m³ Ceiling: 20 ppm	IDLH: 100 ppm Ceiling: 10 ppm 10 min Ceiling: 15 mg/m³ 10 min
Asphalt Fume 8052-42-4	TWA: 0.5 mg/m³ benzene soluble aerosol fume, inhalable fraction	-	Ceiling: 5 mg/m³ fume 15 min

NIOSH REL Immediately Dangerous to Life or Health

Other Information
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Engineering Controls
Follow NIOSH guidelines for controlling exposure to fumes that are found in Asphalt Fume

Exposures During the Application of Hot Asphalt to Roofs DHHS (NIOSH) Publication No. 2003-112 (June 2003). These include:
1. Use fume suppressing asphalt (TruLo® Max) or kettles with afterburner or kettle loading systems when feasible,
2. Use kettles of appropriate size for the job,
3. Make sure lids fit tightly, close the lid when asphalt is not being added and minimize the number of times that the lid must be opened,
4. Chop the kegs into easy-to-handle pieces before opening lid to reduce time it is open,
5. Place the kettle downwind from workers, and with lid facing away from building,
6. Place the kettle away from air intake vents, doors and windows,
7. Restrict access to the area around kettle,
8. Calibrate kettle thermometers and thermostats at least monthly, and
9. Adhere to EVTs at point of application and use insulated kettles and piping to minimize the kettle temperature needed to achieve the application EVT.

Individual protection measures, such as personal protective equipment

Eye/face protection
- Wear safety glasses with side shields (or goggles)
- Wear face shield if splash hazard exist.

Skin and body protection
- Wear protective gloves (heat insulated, leather, lined neoprene coated gloves are recommended when working with hot product).
- Wear long sleeved shirt and long pants (cotton or other thermal protective material is recommended).

Respiratory protection
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators in accordance with their company's respiratory protection program, local regulations or 29 CFR 1910.134.
- Supplied air respirators or self-contained breathing apparatus should be used when concentrations of hydrogen sulfide exceeds the occupational exposure limit.

General Hygiene Considerations
- Do not eat, drink or smoke when using this product
- Wash face, hands and any exposed skin thoroughly after handling

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	No information available
Odor	Petroleum
Color	Black, brown
Boiling point / boiling range	> 538 °C / 1000 °F
Flash point	> 260 °C / > 500 °F Cleveland Open Cup
Vapor pressure @20 °C (kPa)	3 mm Hg @ 20°C
Water solubility	Insoluble in water
Autoignition temperature	No information available

10. STABILITY AND REACTIVITY

Reactivity
- No data available

Chemical stability
- Stable under normal conditions

Possibility of Hazardous Reactions
- Hazardous polymerization does not occur

Conditions to avoid
- Heat, flames and sparks
- Keep from possible contact with water when product is in liquid state.

Incompatible materials
- Strong oxidizing agents
- Water

Hazardous Decomposition Products
- Carbon dioxide (CO2)
- Carbon monoxide
- Combustion products may include sulfur oxides and hydrogen sulfide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

- Harmful by inhalation
- Harmful by skin contact
- Harmful if swallowed

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Asphalt, oxidized (roofing) 64742-93-4	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
N,N'-Ethylenebis(stearamide) 110-30-5	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
Hydrogen sulfide 7783-06-4	-	-	= 0.99 mg/L (Rat) 1 h
Asphalt Fume 8052-42-4	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Immediate Health Effects: Inhalation of vapors, fumes and/or mist may cause nose, throat, and mucous membrane irritation, and nausea, headaches or dizziness, and central nervous system depression, including drowsiness, loss of coordination, and unconsciousness. Eye contact may cause severe irritation, redness, tearing, and blurred vision. If ingested, may cause mouth, throat and gastrointestinal tract irritation and upset with possible nausea, vomiting and diarrhea. Aspiration of petroleum distillates into the lungs can cause severe chemical pneumonitis that can be fatal. See Section 8 for exposure controls.

Delayed Health Effects Prolonged or repeated skin contact may result in dryness and irritation of the skin. Prolonged contact with clothing saturated in petroleum distillates can cause second degree burns. Long term skin exposure to asphalt can increase sensitivity to the sun, and may cause discoloration.

Sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Chemical Name	ACGIH	IARC	NTP	OSHA
Asphalt, oxidized (roofing) 64742-93-4	A4	Group 2A	-	X

IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Carcinogen

- In October 2011, the International Agency for Research on Cancer (IARC) classified occupational exposures to oxidized bitumen (asphalt) and their emissions during roofing as being probably carcinogenic to humans (Group 2 A). 'The Working Group concluded that there was 'limited evidence' in humans for the carcinogenicity of occupational exposures to bitumens and bitumen emissions during roofing. In experimental animals there was 'limited evidence' of carcinogenicity for oxidized bitumens (Class 2), which are mainly used in roofing, and 'sufficient evidence' of carcinogenicity for fume condensates of these oxidized bitumens.' Lancet Oncology, Vol 12, December 2011. Based on a 2000 review of health effects literature, NIOSH concluded that roofing asphalt fumes are a potential occupational carcinogen.
- This petroleum based product contains a variable amount of polycyclic aromatic

compounds (PACs) including polynuclear aromatic hydrocarbons (PAHs) which have been shown to cause cancer and respiratory damage in humans and laboratory animals.

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration hazard No information available.
mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity • Harmful to aquatic life with long lasting effects

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Asphalt, oxidized (roofing) 64742-93-4	56: 72 h Pseudokirchneriella subcapitata mg/L EC50	-	-
Hydrogen sulfide 7783-06-4	-	0.0448: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.016: 96 h Pimephales promelas mg/L LC50 flow-through	0.022: 96 h Gammarus pseudolimnaeus mg/L LC50

Persistence and degradability • No information available

Bioaccumulation • No information available

Chemical Name	Partition coefficient
Hydrogen sulfide 7783-06-4	0.45
Asphalt Fume 8052-42-4	6

Other adverse effects • No information available

13. DISPOSAL CONSIDERATIONS

Disposal of wastes • Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated packaging • Do not reuse container

US EPA Waste Number U050 U018 U135

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Polycyclic Aromatic Hydrocarbons 130498-29-2	-	Included in waste stream: K022	-	-
Hydrogen sulfide 7783-06-4	U135	-	-	U135

14. TRANSPORT INFORMATION

Note:
• Non-bulk containers of solid material are not regulated.
• Material heated at or above 100°C/212°F is regulated.

DOT
UN/ID no. UN3257
Proper shipping name Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point
Hazard Class 9
Packing Group III
Special Provisions IB1, T3, TP3, TP29

Description	UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point (Hydrogen sulfide), 9, III
Emergency Response Guide Number	128

TDG

UN/ID no.	UN3257
Proper shipping name	Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point
Hazard Class	9
Packing Group	III
Description	UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point, 9, III

MEX

UN/ID no.	UN3257
Proper shipping name	Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point
Hazard Class	9
Packing Group	III
Description	UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point (Hydrogen sulfide), 9, III

ICAO (air) Forbidden Not regulated

IATA Forbidden Not regulated

IMDG

UN/ID no.	UN3257
Proper shipping name	Elevated temperature liquid, n.o.s.
Hazard Class	9
Packing Group	III
EmS-No.	F-A, S-P
Special Provisions	232, 274
Description	UN3257, Elevated temperature liquid, n.o.s. (Hydrogen sulfide), 9, III

RID

UN/ID no.	UN3257
Proper shipping name	Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point
Hazard Class	9
Packing Group	III
Classification code	M9
Description	UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point (Hydrogen sulfide), 9, III
Labels	9

ADR

UN/ID no.	UN3257
Proper shipping name	Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point
Hazard Class	9
Packing Group	III
Classification code	M9
Tunnel restriction code	(D)
Special Provisions	274, 643
Description	UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point (Hydrogen sulfide), 9, III, (D)
Labels	9

ADN

Proper shipping name	Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point
Hazard Class	9
Packing Group	III
Classification code	M9
Special Provisions	274, 580, 643

Description	UN3257, , Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point (Hydrogen sulfide), 9, III
Hazard label(s)	9
Limited quantity (LQ)	0

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Asphalt, oxidized (roofing) 64742-93-4	X	X		X		X	X	X	X	X
N,N'-Ethylenebis(stearamide) 110-30-5	X	X		X		X	X	X	X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Hydrogen sulfide 7783-06-4	100 lb	-	-	X

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Hydrogen sulfide 7783-06-4	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product is not regulated under California Proposition 65.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Asphalt, oxidized (roofing) 64742-93-4	X	-	-
Polycyclic Aromatic Hydrocarbons 130498-29-2	X	-	X
Hydrogen sulfide 7783-06-4	X	X	X
Asphalt Fume 8052-42-4	X	X	X

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Creation Date 25-Jun-2000
Revision Date 18-Nov-2015
Revision Note This Safety Data Sheet meets US OSHA Revised Hazard Communication Standard 2012 (HCS) 29 CFR 1910.1200 and to the Canadian Hazardous Products Regulation SOR/2015-17 (WHMIS 2015) requirements.

Disclaimer
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End of Safety Data Sheet