SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

PRODUCT NAME

PERMATE VAPOUR RETARDER

SUPPLIER NAME AND ADDRESS

Lexsuco 2010 Corporation
3275 Orlando Dr.
Mississauga, Ontario L4V 1C5
Tel: 905.792.8800 Fax: 905.792.8801

EMERGENCY TELEPHONE NUMBER:

CANUTEC 613-996-6666 (24 hours every day)

Regulatory Information Number:

Tel: 1-877-792-8308

Description: Fabricated from two plies of high strength kraft paper, laminated together with a specially modified asphalt

General Use: Vapour Retarder for Roofing Applications

SECTION 2 - HAZARDS IDENTIFICATION

Asphalt / Bitumen Component
GHS Classification
Carcinogenicity - Category 2

GHS Label Elements

Warning
Suspected of causing cancer.

Other Hazards
Hazard Not Otherwise Classified (HNOC): Contact with hot material can cause thermal burns.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Permata Vapour Retarder

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt, oxidized</td>
<td>64742-93-4</td>
<td>39</td>
</tr>
<tr>
<td>Polyamide 6; Nylon 6 fibres</td>
<td>25038-54-4</td>
<td>1</td>
</tr>
<tr>
<td>Paper</td>
<td>9004-34-6</td>
<td>60</td>
</tr>
</tbody>
</table>

Asphalt / Bitumen Component

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt, oxidized</td>
<td>64742-93-4</td>
<td>90-100</td>
</tr>
<tr>
<td>Asphalt extender</td>
<td>129893-17-0</td>
<td>0-10</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>7783-06-4</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Sulphur and its derivatives are intrinsic to base asphalt. During storage or transit of hot asphalt, hydrogen sulphide may be generated.
**SECTION 4 - FIRST AID MEASURES**

**Permate Vapour Retarder**  
**Description of First Aid Measures**

**Inhalation:** If exposed to combustion products, remove victim from the exposure. Seek medical aid for significant exposure to combustion products.

**Ingestion:** Ingestion should not occur under normal use. Seek medical aid if ingested.

**Eye Contact:** Dust may irritate the eyes. Flush with water to remove dust.

**Skin Contact:** Routine first aid treatment for cuts and abrasions from handling and cutting paper rolls.

**Asphalt / Bitumen Component**  
**First-aid Measures**

**Inhalation**
Move to fresh air. Get medical advice/attention if you feel unwell or are concerned.

**Skin Contact**
For hot asphalt splash, cool affected body part with water immersion or shower. Do not attempt removal of asphalt but split longitudinally if asphalt covers limb circumferentially to avoid tourniquet effect. No attempt should be made to remove firmly adhering bitumen from the skin. Once the bitumen has cooled, it will do no further harm. As healing takes place, the bitumen plaque will detach itself, usually after a few days.

**Eye Contact**
Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water by allowing the water to flow over the bridge of the nose to the eyes for at least 20 minutes. Seek medical attention.

**Ingestion**
DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.

**Most Important Symptoms and Effects, Acute and Delayed**
Symptoms may not appear immediately. Fume may cause respiratory irritation; Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness and nose and throat pain. Fume May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hot liquid product may cause serious thermal burns on direct contact.

**Immediate Medical Attention and Special Treatment**

**Special Instructions**
No attempt should be made to remove firmly adhering bitumen from the skin. If solvent treatment is used, it should be followed by washing with soap and water, then the application of a proprietary refatting agent or skin cleansing cream. Only medically approved solvents may be used to remove bitumen from burns, as other solvents could cause further skin damage.

**SECTION 5 - FIRE FIGHTING MEASURES**

**Permate Vapour Retarder**  
**Conditions of Flammability:** Will ignite and burn if exposed to flame

**Means of Extinction:** Water, foam, dry chemical, sand

**Flashpoint (°C):** Not applicable

**Upper Flammability Limit:** Not applicable

**Lower Flammability Limit:** Not applicable

**Auto-ignition Temperature (°C):** 233°C

**Asphalt / Bitumen Component**  
**Extinguishing Media**

**Suitable Extinguishing Media**
Use water to keep non-leaking, fire-exposed containers cool.  
SMALL FIRE: use DRY chemicals, foam, water spray or CO2.  
LARGE FIRE: use water spray, fog or foam.

**Unsuitable Extinguishing Media**
None known.
Specific Hazards Arising from the Chemical
Carbon oxides (CO, CO₂), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H₂S), smoke and irritating fumes as products of incomplete combustion.

Special Protective Equipment and Precautions for Fire-fighters
For small outdoor fires, portable fire extinguishers may be used, and self-contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for firefighting personnel.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Asphalt / Bitumen Component
Personal Precautions, Protective Equipment, and Emergency Procedures
Do not touch or walk through spilled material. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions
Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up
Stop or reduce leak if safe to do so. Contain hot liquid by dyking and allow to cool and solidify. Break up and recover, see section 13 for disposal consideration.

SECTION 7 – HANDLING & STORAGE

Asphalt / Bitumen Component
Precautions for Safe Handling
Asphalt may be transported hot. Avoid skin contact. Avoid eye contact. Avoid inhalation of product vapours or fumes. Ensure all equipment is grounded/bonded. During storage, transit and cooling of asphalt, hydrogen sulphide (H₂S) may accumulate in enclosed spaces such as tank cars. Open tank car hatches with caution. Maintain same precautions when gauging and sampling. Empty containers may contain product residue. Do not reuse containers without commercial cleaning and/or reconditioning. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product. Wear proper personal protective equipment.

Conditions for Safe Storage
To maintain pumping ability, asphalt is kept heated to a suitable temperature; normally well above room temperature but below the flash point. Store in dry, well-ventilated area. Clear roof vents periodically to prevent accumulation of asphalt deposits from vapour accumulation. Store away from incompatible and reactive materials (see section 10). Ensure the storage containers are grounded/bonded.

SECTION 8 – EXPOSURE CONTROL & PERSONAL PROTECTION

Asphalt / Bitumen Component
ACGIH TLV®

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TWA</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen sulfide</td>
<td>1 ppm</td>
<td>5 ppm</td>
</tr>
<tr>
<td>Asphalt, oxidized</td>
<td>0.5 mg/m³ (as benzenesoluble aerosol) A4</td>
<td></td>
</tr>
<tr>
<td>Asphalt extender</td>
<td>0.5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate Engineering Controls
For normal application, special ventilation is not necessary. If user's operations generate vapours or fumes, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.

Individual Protection Measures
Eye/Face Protection
As a minimum, safety glasses with side shields should be worn when handling this material.

Skin Protection
Wear Protective clothing with full length sleeves and pants should be worn.
Respiratory Protection
A minimum of NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister with a dust, fume of mist filter (R, or P series) may be allowable under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. A NIOSH-approved positive-pressure, air-supplied respirator or self-contained breathing apparatus may be required under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Permate Vapour Retarder</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>Odour &amp; Appearance</strong></td>
<td>No odour. Asphaltic compound and nylon fibres sandwiched between two layers of brown paper.</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Not soluble in water</td>
</tr>
<tr>
<td><strong>Vapour Pressure</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Boiling Point (°C)</strong></td>
<td>Asphalt layer approx. 350 °C</td>
</tr>
<tr>
<td><strong>Freezing Point(°C)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Vapour Density (air=1)</strong></td>
<td>Asphalt layer nil @ 15°C</td>
</tr>
<tr>
<td><strong>Evaporation Rate (BuAe=1)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Percent Volatile (by volume)</strong></td>
<td>Nil @ 37.8°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Asphalt / Bitumen Component</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Physical and Chemical Properties</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Brown - black Viscous semi-solid.</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Asphalt</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Melting Point/Freezing Point</strong></td>
<td>Not available (freezing)</td>
</tr>
<tr>
<td><strong>Initial Boiling Point/Range</strong></td>
<td>&gt; 470 °C (878 °F)</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>&gt; 288 °C (550 °F) (open cup)</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Upper/Lower Flammability or Explosive Limit</strong></td>
<td>Not available (upper); Not available (lower)</td>
</tr>
<tr>
<td><strong>Vapour Pressure</strong></td>
<td>Nil at 37.8°C (100°F)</td>
</tr>
<tr>
<td><strong>Vapour Density (air = 1)</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Relative Density (water = 1)</strong></td>
<td>&gt; 1</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Insoluble in water; Insoluble in alcohol, acids and alkalis. Soluble in oil turpentine, petroleum, carbon disulphide, chloroform, ether, and acetone</td>
</tr>
<tr>
<td><strong>Partition Coefficient, n-Octanol/Water (Log Kow)</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Auto-ignition Temperature</strong></td>
<td>&gt; 370 °C (698 °F)</td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>150 - 2500 centipoises (dynamic)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>Solid</td>
</tr>
</tbody>
</table>

SECTION 10 - STABILITY & REACTIVITY

<table>
<thead>
<tr>
<th>Permate Vapour Retarder</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stability</strong></td>
<td>Stable at ambient temperatures</td>
</tr>
<tr>
<td><strong>Incompatibility</strong></td>
<td>Strong oxidizing chemicals</td>
</tr>
<tr>
<td><strong>Conditions of Reactivity</strong></td>
<td>Avoid direct contact with flame</td>
</tr>
</tbody>
</table>
Hazardous Decomposition Products
CO, CO₂, HCN and oxygenates of SOₓ

Asphalt / Bitumen Component
Reactivity
Not reactive under normal conditions of use.

Chemical stability
Stable under normal temperature conditions and recommended use.

Possibility of Hazardous Reactions
None known.

Conditions to Avoid
Open flames, sparks, static discharge, heat and other ignition sources. Incompatible materials.

Incompatible Materials
Oxidizing agents (e.g. peroxides), fluorine.

Hazardous Decomposition Products
Carbon Oxides (COₓ), sulfur Oxides (SOₓ), nitrogen oxides (NOₓ), hydrogen sulfide, hydrocarbons.

### SECTION 11 - TOXICOLOGICAL INFORMATION

Permate Vapour Retarder

Routes of Entry
Minimal nuisance dust from normal use.

Effects of Acute Exposure
No known effects under normal use

Effects of Chronic Exposure
No known effects under normal use

Irritancy
During routine use, paper dust is anticipated to be the primary inhaled contaminant, which may cause irritation.

Sensitization
Not a known sensitizer (ACGIH)

Carcinogenicity
Asphalt fume - Potential Carcinogen (NIOSH), A4-Not Classifiable as a Human Carcinogen (ACGIH)

Mutagenicity
Not available

Teratogenicity
Not available

Reproductive toxicity
Not available

Toxicologically synergistic products
Not available
Asphalt / Bitumen Component

Likely Routes of Exposure
Eye contact; skin contact; inhalation; ingestion.

Acute Toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LC50</th>
<th>LD50 (oral)</th>
<th>LD50 (dermal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen sulfide</td>
<td>444 ppm</td>
<td>(4-hour exposure)</td>
<td>Not available</td>
</tr>
<tr>
<td>Asphalt extender</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation
Prolonged or repeated contact with skin may cause dermatitis or warty skin growths (keratosis). Contact with hot material can cause thermal burns.

Serious Eye Damage/Irritation
Vapours or fumes from the hot asphalt can cause irritation of the surface of the eyes as well as limbal pigmentation of the cornea. Contact with hot material can cause thermal burns.

STOT (Specific Target Organ Toxicity) - Single Exposure
Inhalation
No information was located.

Skin Absorption
No information was located.

Ingestion
No information was located.

Aspiration Hazard
May cause lung damage if aspirated based on physical properties (e.g. kinematic viscosity) and chemical family (hydrocarbon).

STOT (Specific Target Organ Toxicity) - Repeated Exposure
No information was located.

Respiratory and/or Skin Sensitization
This product is not expected to be a skin or a respiratory tract sensitizer, based on the available data and the known hazards of the components.

Carcinogenicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>IARC</th>
<th>ACGIH®</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt, oxidized</td>
<td>Group 2A</td>
<td>A4</td>
<td>Not Listed</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Asphalt extender</td>
<td>Not Listed</td>
<td>Not designated</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Group 2A – Probably carcinogenic to humans. Group 2B – Possibly carcinogenic to humans.

Other Information
Contains:
HYDROGEN SULFIDE: Chronic health effects due to repeated exposures to low levels of H2S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of over exposure to H2S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucosa membranes and the respiratory system and have been implicated in some eye damage.

SECTION 12 - ECOLOGICAL INFORMATION

No information available (Toxicity, Persistence and Degradability, Bioaccumulative Potential, Mobility in Soil and Other Adverse Effects).
SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of waste at an appropriate treatment & disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

SECTION 14 - TRANSPORT INFORMATION

No information provided.

SECTION 15 - REGULATORY INFORMATION

No information provided.

SECTION 16 - OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Reference: The information herein is presented in good faith and believed to be correct as of the date hereof. Information is based upon supplier issued safety data sheets and may be subject to error. If apprised of changes, updated SDS will be promptly issued. Users must make their own determination regarding the suitability of the product for their own purposes prior to use.

Prepared By: Lexsuco 2010 Corporation