


SAFETY DATA SHEET

ASPHALT CEMENT (BITUMEN)

Section 1. Identification

GHS product identifier	: ASPHALT CEMENT (BITUMEN)
Code	: Not available.
Other means of identification	: BITUMEN
Product type	: Liquid.
<u>Relevant identified uses of the substance or mixture and uses advised against</u>	
Identified uses	: Mainly used for paving applications.
Supplier/Manufacturer	: Kildair Service ULC 1000, Montée des Pionniers, bureau 110 Terrebonne, Québec, J6V 1S8 Tel.: 450 756-8091
Emergency telephone number (with hours of operation)	: CANUTEC: +1-613-996-6666 or *666 (cellular) (24 hours)

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2
<u>GHS label elements</u>	
Hazard pictograms	: 
Signal word	: Warning
Hazard statements	: Harmful if inhaled. Suspected of causing cancer.
<u>Precautionary statements</u>	
Prevention	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Use only outdoors or in a well-ventilated area. Avoid breathing vapor.
Response	: IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
Storage	: Store locked up.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

Other hazards which do not result in classification/HHNOC/PHNOC : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Other means of identification : BITUMEN

CAS number/other identifiers

CAS number : Not applicable.
Product code : Not available.

Ingredient name	%	CAS number
Asphalt	≥75 - ≤90	8052-42-4
Lubricating oils, used, residues	≤5	129893-17-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. Treat all thermal burns with appropriate first aid measures for degree of burn. Flush with cool running water. Cover wound with sterile dressing. Get medical attention. If bitumen has reached the skin without being burned, clean with mineral oil and then with soap and water. Do not attempt to remove firmly adhering bitumen from the skin.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Exposure to hot material may cause thermal burns.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

- Hazardous thermal decomposition products** : No specific data.

Special protective actions for fire-fighters : No special protection is required.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Asphalt may be transported warm. Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

Ingredient name	Exposure limits
Asphalt Lubricating oils, used, residues	NIOSH REL (United States, 10/2013). CEIL: 5 mg/m ³ 15 minutes. Form: Fertilizer and/or industrial use. ACGIH TLV (United States, 3/2016). TWA: 0.5 mg/m ³ , (as benzene soluble aerosol) 8 hours. Form: Inhalable fraction None.

Section 8. Exposure controls/personal protection

Canada

Occupational exposure limits

Ingredient name	Exposure limits
Asphalt	<p>CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 5 mg/m³ 8 hours. Form: Fertilizer and/or industrial use.</p> <p>CA Quebec Provincial (Canada, 1/2014). TWA: 5 mg/m³ 8 hours. Form: Fertilizer and/or industrial use.</p> <p>CA Ontario Provincial (Canada, 7/2015). TWA: 0.5 mg/m³, (as benzene soluble aerosol) 8 hours. Form: Inhalable fraction</p> <p>CA British Columbia Provincial (Canada, 7/2016). TWA: 0.5 mg/m³, (as benzene-soluble aerosol) 8 hours. Form: Inhalable fume</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). STEL: 1.5 mg/m³, (measured as benzene soluble aerosol) 15 minutes. Form: Inhalable fume TWA: 0.5 mg/m³, (measured as benzene soluble aerosol) 8 hours. Form: Inhalable fume</p>

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Recommended: polyvinyl alcohol (PVA), fluoro-elastomer

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid. [Viscous.]
Color	: Black.
Odor	: Characteristic asphaltic odour of "rotten egg" if H ₂ S present.
Odor threshold	: Not available.
pH	: Not available.
Melting point	: Not available.
Boiling point	: 470°C (878°F)
Flash point	: Open cup: >230°C (>446°F) [Cleveland.]
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: <1 kPa (<7.5006 mm Hg) [@ 38°C (100.4°F)]
Vapor density	: Not available.
Relative density	: >1 @ 15°C (59°F)
Solubility	: Soluble in the following materials: oil turpentine, petroleum, carbon disulphide, chloroform, ether and acetone. Insoluble in the following materials: water, alcohols, acids and alkalis.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: >370°C (>698°F)
Decomposition temperature	: Not available.
Viscosity	: Not available.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, reducing materials and alkalis.
Hazardous decomposition products	: Carbon oxides; Sulphur oxides; Nitrogen oxides (NO _x); Hydrogen sulfide; Hydrocarbons; Polycyclic aromatic hydrocarbons; Other unidentified organic compounds.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Asphalt	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Asphalt	-	2B	-	A4	-	+
Distillates (petroleum), solvent-dewaxed heavy paraffinic	-	-	-	A4	-	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : Harmful if inhaled.
Skin contact : Exposure to hot material may cause thermal burns.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Inhalation (vapors)	13.02 mg/L

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.


Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of

Section 13. Disposal considerations

spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT	TDG	IMDG	IATA
UN number	UN3257	Not regulated.	Not available.	Not available.
UN proper shipping name	ELEVATED TEMPERATURE LIQUID, N.O.S. (Asphalt)	-	-	-
Transport hazard class(es)	9 	-	-	-
Packing group	III	-	-	-
Environmental hazards	No.	No.	-	-
Additional information	-	-	-	-

AERG : 128

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Section 15. Regulatory information

Classification : Immediate (acute) health hazard
 Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Asphalt Lubricating oils, used, residues	No. Yes.	No. No.	No. No.	No. Yes.	Yes. No.

SARA 313

There is no data available.

State regulations

- Massachusetts** : The following components are listed: Asphalt; Distillates (petroleum), solvent-dewaxed heavy paraffinic
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: Asphalt; Distillates (petroleum), solvent-dewaxed heavy paraffinic
- Pennsylvania** : The following components are listed: Asphalt; Distillates (petroleum), solvent-dewaxed heavy paraffinic

California Prop. 65

No products were found.

Canada

Canadian lists

- Canadian NPRI** : None of the components are listed.
- CEPA Toxic substances** : None of the components are listed.
- Canada inventory** : All components are listed or exempted.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2	Calculation method Calculation method

History

- Date of issue mm/dd/yyyy** : 04/30/2017
- Version** : 1
- Prepared by** : KMK Regulatory Services Inc.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named 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.