

## Section 1: Chemical Product and Company Identification

**Product Name** : Bitumen  
**Grade** : Paving Grade Bitumen  
**Company Identification** : Kimia International Pte Limited  
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## Section 2: Composition and Information on Ingredients

### Composition:

Name	CAS #	% by Weight
Bitumen	8052-42-4	100

## Section 3: Hazards Identification

**Product definition** : UVCB

### Potential Hazards:

Hazardous concentrations of hydrogen sulphide (H<sub>2</sub>S) gas may accumulate in the vapour space of storage vessels. Standard procedures for opening or entering tanks, vessels or other containers must strictly be followed to avoid inhalation of this acutely toxic gas. Defatting to the skin

## Section 4: First Aid Measures

### 4.1

#### Eye Contact:

Hot material: 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 10 minutes. Get medical attention if irritation occurs.

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**Skin Contact:**

Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse. Hot product: The area should be cooled IMMEDIATELY under running water for up to 10 minutes. To avoid further damage to the skin no attempt should be made to remove bitumen FIRMLY adhering to the skin. If adverse skin effects follow, refer for medical attention.

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If exposure to hydrogen sulphide is suspected or cannot be excluded, obtain medical attention IMMEDIATELY. 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 adverse health effects persist or are severe. 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

**Ingestion:** Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur

**4.2**

**Potential acute health effects**

**Eye Contact :** Heated material can cause thermal burns.

**Inhalation :** No known significant effects or critical hazards.

**Ingestion :** No known significant effects or critical hazards.

**Skin contact :** May be harmful in contact with skin. Defatting to the skin. May cause skin dryness and irritation. Heated material can cause thermal burns.

**Over-exposure signs/symptoms**

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**Skin contact** : Adverse symptoms may include the following: irritation, dryness, cracking

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

### **Section 5: Fire and Explosion Data**

**Hazardous thermal decomposition products:** Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and Hydrogen sulphide.

#### **Advice for firefighters**

**Special protective actions for fire-fighters:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

### **Section 6: Accidental Release Measures**

#### **6.1 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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. Hot material: Avoid contact with eyes, skin and clothing.

**For emergency responders :** If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

### **Small Spill**

Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

### **Large Spill:**

Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

## **Section 7: Handling and Storage**

### **Protective measures:**

Put on appropriate personal protective equipment (see Section 8). Hazardous concentrations of hydrogen sulphide (H<sub>2</sub>S) gas may accumulate in the vapour space of storage vessels. Standard procedures for opening or entering tanks, vessels or other containers must strictly be followed to avoid inhalation of this acutely toxic gas.

### **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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### **Conditions for safe storage, including any incompatibilities:**

Store between the following temperatures: 140 to 180°C (284 to 356°F). 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. 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. Provide adequate ventilation.



## Section 8: Exposure Controls/Personal Protection

### 8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Asphalt	<b>ACGIH TLV (United States, 2/2010).</b> TWA: 0.5 mg/m <sup>3</sup> , (as benzene soluble aerosol) 8 hour(s). Form: Inhalable fraction
Hydrogen Sulphide	<b>EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values</b> TWA: 7 mg/m <sup>3</sup> 8 hour(s). TWA: 5 ppm 8 hour(s). STEL: 14 mg/m <sup>3</sup> 15 minute(s). STEL: 10 ppm 15 minute(s).

#### Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

#### Appropriate engineering controls:

Product may release hydrogen sulphide: a specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water and unintentional releases should be made to help determine controls appropriate to local circumstances. Use only with adequate ventilation.

#### 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.

**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. Wear suitable gloves tested to EN374.

**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:** Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Thermal hazards :** When handling hot material, wear heat-resistant protective gloves, clothing and face shield that are able to withstand the temperature of the molten product.

**Environmental exposure controls :** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Section 9: Physical and Chemical Properties

**Physical state and appearance** : Solid. [at 20°C]  
**Appearance** : Viscous Liquid at 70°C

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Color	: Brown to Black
Odor	: Characteristic.
Boiling Point	: >320°C
Flash Point	: Open cup: >230°C [ASTM D92.]
Relative Density	: 1
Solubility	: Insoluble in the following materials: cold and hot water
Auto-ignition temperature	: >320°C
Decomposition temperature	: >320°C
Dispersion Properties	: See solubility in water.
Solubility	: Insoluble in hot and cold water.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Possibility of hazardous reactions:** Under normal conditions of storage and use, hazardous reactions will not occur.

**Incompatible materials:** Reactive or incompatible with the following materials: Strong oxidizing materials

**Hazardous decomposition product:** Decomposition products may include the following materials:  
sulfur oxides :Hydrogen sulphide

## Section 11: Toxicological Information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Asphalt	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	
Hydrogen Sulphide	LD50 Oral , LC50 Inhalation Gas. LC50 Inhalation Vapor	Rat	>5000 mg/kg, 444ppm, 700mg/m3	0, 4 hours, 4 hours

**Skin :** Non- Irritant to skin

**Eyes :** Non- Irritating to eyes

## Section 12: Ecological Information

Product/ingredient name	Result	Species	Exposure
Asphalt	Acute EC50 >1000 mg/l Fresh water Acute LC50 >1000 mg/l Fresh water Acute LC50 >1000 mg/l Fresh water Chronic NOEC >1000 mg/l Fresh water	Algae Daphnia Fish	72 hours 48 hours 96 hours
hydrogen sulphide	Acute EC50 62 ug/L Fresh water Acute LC50 <2 ug/L Fresh water	Daphnia Crustaceans - Gammarus pseudolimnaeus - 11 mm Fish - Perca flavescens - Yolk- sac fry	21 days 2 days 96 hours

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

## Section 13: Disposal Considerations

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**Waste Disposal:** The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and regional local authority requirements

### Section 14: Transport Information

**Transport in bulk:** Not available.

### Section 15: Other Regulatory Information

**National Inventory List:**

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory: All components are listed or exempted.

Korea inventory: All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

United States inventory (TSCA 8b): All components are listed or exempted.

Europe inventory: All components are listed or exempted.

Canada inventory: All components are listed or exempted

### Section 16: Other Information

**Other Special Considerations:** Not available.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Kimia International Pte. Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Kimia International Pte.Ltd. has been advised of the possibility of such damages.



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