# Material Safety Data Sheet



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Product Name : **OLEXOBIT® AOG**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name** OLEXOBIT® AOG

**Company Name** BP Australia Pty Ltd (ABN 53 004 085 616)

**Address** Melbourne Central, 360 Elizabeth Street, Melbourne,
Victoria 3000 Australia

**Emergency Tel.** 24hr 1800 638 556

**Telephone/Fax Number** Tel:
61 3 9268 4111
Fax:
(03) 9268 3321

**Recommended Use** Bitumen product for road building, industrial and civil engineering materials and processes.
For specific application advice see appropriate Technical Data Sheet or consult your BP representative.

**Other Information** BP Bitumen Technical Helpline: 1 800 24 88 66

MSDS website www.msds.bp.com.au

This data sheet and the health, safety and environmental information it contains is considered to be accurate as of the date specified above. We have reviewed any information contained herein which we received from sources outside the BP Group of Companies. However, no warranty or representation, expressed or implied is made as to the accuracy or completeness of the data and information contained in this data sheet.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission, recommendation or authorisation given or implied to practise any patented invention without a valid licence. The BP Group of Companies shall not be responsible for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

## 2. HAZARDS IDENTIFICATION

**Hazard Classification** DANGEROUS GOODS.
NON-HAZARDOUS SUBSTANCE.

This product can be delivered, stored and used at temperatures above 100 °C. Contact with hot product will cause burns.
Hydrogen sulphide, an extremely toxic and highly flammable gas, may be present in trace amounts in the overall formulation, and may collect along with other flammable light hydrocarbon gases in the vapour spaces where this product is stored. Hydrogen sulphide has a typical 'bad egg' smell but at high concentrations the sense of smell is rapidly lost, therefore do not rely on sense of smell for detecting hydrogen sulphide. Use specially designed instruments for determining its concentration.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Composition, information on ingredients** This product consists of bitumen, a complex black solid consisting predominantly of high molecular weight organic compounds with carbon numbers greater than 25 and high carbon to hydrogen ratios, and hydrocarbon polymer (<5%)
Bitumen CAS No. 8052-42-4 95-100% w/w
Or
Asphalt, oxidized CAS No 64742-93-4 95-100% w/w

Other ingredients determined not to be hazardous <5%

## 4. FIRST AID MEASURES

**Inhalation** If inhalation of mists, fumes or vapour causes irritation to the nose or throat, or coughing, remove to fresh air. If symptoms persist obtain medical

advice.

EXPOSURE TO HYDROGEN SULPHIDE
Casualties suffering ill effects as a result of exposure to hydrogen sulphide should be immediately removed to fresh air and medical assistance obtained without delay. Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and if breathing has failed, or is deemed inadequate, respiration must be assisted, preferably by the mouth-to-mouth method. Administer external cardiac massage if necessary. Seek immediate medical attention.
It is advisable that all who are engaged in operations in which contact with hydrogen sulphide may reasonably be anticipated, should be trained in the techniques of emergency resuscitation and in the care of an unconscious patient.

**Ingestion**

If contamination of the mouth occurs, wash out thoroughly with water.
Except as a deliberate act, the ingestion of large amounts of product is unlikely.
If it should occur, do not induce vomiting; obtain medical advice.

**Skin**

Hot product - Where skin burns occur, the area should be immediately immersed in cold water until the bitumen is thoroughly cooled. Do not attempt to remove the bitumen from the skin as it provides an airtight sterile cover over the burn, which will eventually fall away with the scab as the wound heals. If, for any reason, the bitumen must be removed, this can be done using a slightly warmed medicinal liquid paraffin. Kerosene or other solvents should never be used to remove bitumen from skin or clothing.
All burns should receive medical attention. It should be noted that bitumen contracts on cooling and where a limb is encased, care should be taken to avoid the development of a tourniquet effect.

Cold product - If the skin becomes contaminated with product at ambient temperature, wash the skin thoroughly with soap and water. Seek medical advice if irritation persists.

**Eye**

Hot product - Flood immediately with water to dissipate the heat, if possible, ensuring eyelids are held open. In the event of any product remaining, do not try to remove it other than by continued irrigation with water. Take the casualty to hospital for examination and treatment without delay.

Cold product - Wash eye thoroughly with copious quantities of water, ensuring eyelids are held open. Obtain medical advice if any pain or redness develops or persists.

**Advice to Doctor**

Treatment should in general be symptomatic and directed to relieving effects. Inhalation of hydrogen sulphide may cause central nervous system depression leading to coma and death. It is irritant to the respiratory tract causing chemical pneumonitis and pulmonary oedema. The onset of pulmonary oedema may be delayed 24 to 48 hours. Treat with oxygen and ventilate as appropriate. Administer broncho-dilators if indicated and consider administration of corticosteroids. Keep casualty under surveillance for 48 hours in case pulmonary oedema develops.

Aspiration of the product is unlikely to occur except as a result of ingestion, followed by vomiting or regurgitation in a partially or totally unconscious individual, where immediate effects are most likely to result from the aspiration of acidic stomach contents. If it should occur, transport casualty immediately to hospital.

## 5. FIRE FIGHTING MEASURES

**Fire Fighting Measures**

For major fires, call the Fire Brigade immediately. Ensure an escape path is always available from any fire. There is a danger of flashback if sparks or hot surfaces ignite vapour. In case of fire, use foam, dry chemical, carbon dioxide, vaporising liquid or water delivered as a fine spray.
DO NOT USE water jets.
FIRES IN CONFINED SPACES SHOULD BE DEALT WITH BY TRAINED PERSONNEL WEARING APPROVED BREATHING APPARATUS.
Water may be used to cool nearby heat exposed areas/objects/packages. Avoid spraying directly into storage containers because of the danger of boil-over.

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| **Hazards from Combustion Products** | Toxic fumes may be evolved on burning or exposure to heat. See Stability and Reactivity, Section 10 of this Material Safety Data Sheet. |
| **Hazchem Code** | 2W |

## 6. ACCIDENTAL RELEASE MEASURES

**Emergency Procedures**

Depending upon its temperature, the product may be either liquid, semi-solid or solid.
Wear protective equipment (See Exposure Controls/Personal Protection, Section 8 of this Material Safety Data Sheet for details).
Contain and recover liquid using sand or other suitable inert absorbent material.
Protect drains from potential spills and prevent entry of product. Do not wash product into drainage system since this may result in a blockage when the product cools. Should blockage occur, notify the appropriate authority immediately.
Scrape up bulk of solid material and remove the remainder with sand or other suitable absorbent material. It is advised that stocks of suitable absorbent material should be held in quantities sufficient to deal with any spillage, which may be reasonably anticipated.
If necessary, clean the resultant area using hot water and detergent; absorb the washings with suitable absorbent material or sand. Do not wash into drains.

In the case of large spills contact the appropriate authorities.
Spillages of hot product in confined spaces may be especially hazardous because flammable gases including highly toxic hydrogen sulphide gas may be present. For such spillages, the use of approved breathing apparatus by personnel specially trained in its use may be required.
If spillage has occurred in a confined space, ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry.

Vapour may collect in any confined space.
Protect environmentally sensitive areas and water supplies. In the case of spillage on water, the product may sink and recovery may be difficult. Regular surveillance on the location of the spillage should be maintained.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling**

Avoid skin contact. Good working practices, high standards of personal hygiene and plant cleanliness must be maintained at all times. Whilst using, do not eat, drink or smoke. Wear appropriate gloves. Wash hands thoroughly after contact. Removal of bitumen from the skin is best achieved by the use of a suitable hand cleaner. Do not use solvents, such as kerosene. Regular periodic self inspection of the skin is recommended, especially those areas subject to contamination. In the event of any localised changes in appearance or texture of the skin being noticed, medical advice should be sought without delay.
Contact with hot product will cause burns.
Ensure good ventilation and avoid, as far as reasonably practicable, the inhalation and contact with vapours, mists or fumes which may be generated during use. If such vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonably practicable level.
Avoid contact with eyes. If splashing is likely to occur wear a full face visor or chemical goggles as appropriate.
Do not siphon product by mouth.
Use disposable cloths and discard when soiled. Do not put soiled cloths into pockets.
Take all necessary precautions against accidental spillage into soil or water.

**Conditions for Safe Storage**

Store under cover away from moisture and sources of ignition. Do not overheat in storage.
Under no circumstances should water be allowed to contact hot product because of the danger of boil-over. Particular care should be taken to ensure that bulk storage tanks are watertight and that any steam heating coils are regularly checked for leaks.
For bulk product, the storage temperature should not fluctuate above and below 100°C as this increases the risk of water condensation leading to boil-over. Care must always be exercised when heating product through 100°C.

Highly toxic hydrogen sulphide gas may be emitted from hot product and accumulate in enclosed spaces or tanks. Extreme care must therefore be taken during venting of tanks and enclosed spaces which have, at any time, contained hot product. Under no circumstances should entry be made into small enclosures without taking full precautions.

Confined spaces contaminated with hydrogen sulphide must always be considered as constituting potentially life-threatening environments. Entry into such spaces must never be undertaken except under extreme emergency when no alternative is possible and then by trained operators wearing air-supplied breathing apparatus of an approved type and following procedures strictly in accordance with statutory regulations. Always have sufficient personnel standing by outside the tank with appropriate breathing apparatus and equipment to effect a quick rescue.
It is advisable that all who are engaged in operations in which contact with hydrogen sulphide may reasonably be expected, should be trained in the techniques of emergency resuscitation and in the care of an unconscious patient.
Pyrophoric (self-heating) deposits, which may cause fire or explosion, may be formed in storage. Avoid exposure of tank vapour space to fresh air, and maintain stable storage temperatures. Regular inspection for such deposits will indicate when tank cleaning is necessary.
For information on the design of the store-room reference should be made to Australian Standard AS/NZS 4681 The storage and handling of Class 9 (miscellaneous) dangerous goods and articles.

**Other Information**

Fire Prevention
Light hydrocarbon vapours can build up in the headspace of tanks. These can cause flammability/explosion hazards, even at temperatures below the normal flash point. (Note: flash point must not be regarded as a reliable indicator of the potential flammability of vapour in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electric discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Hoses should be electrically continuous and ensure equipment used is properly earthed or bonded to the tank structure.
Will present a flammability hazard if heated above the flash point but bulk liquids at normal storage temperatures present a low fire hazard. Product should not be overheated in storage because of the risk of fire. For advice on storage temperatures, please contact your local BP representative.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**National Exposure Standards**

Avoid, as far as reasonably practicable, inhalation of vapour, mists or fumes generated during use.
If vapour, mists or fumes are generated, their concentration in the workplace air should be controlled to the lowest reasonably practicable level.
NOHSC recommend an exposure standard for an 8 hour time weighted average (TWA) of 10 ppm for hydrogen sulphide and 5 mg/m$^3$ for bitumen fumes.
The short term exposure limit for hydrogen sulphide is 15 ppm.

**Biological Limit Values**

Unknown.

**Engineering Controls**

Ensure good ventilation.

**Respiratory Protection**

If operations are such that the excessive generation and inhalation of vapour mist or fume may be anticipated, then respiratory equipment meeting appropriate Australian Standards for mists and organic vapours should be worn. Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.
The use of respiratory equipment must be strictly in accordance with the manufacturer's instructions and any statutory requirements governing its selection and use.

**Personal Protective Equipment**

When handling bitumen, suitable protective clothing of an appropriate standard should be worn. Depending on the type of operation this may include:
- Visor to protect face and head covering with neck flap,
- Gauntlets (heat resistant and impervious to solvent),
- Overalls, impervious to bitumen, covering full body and limbs with legs worn over boots to prevent burns to the legs and feet;

- Protective boots.
If skin contact is likely, wear impervious protective clothing and/or gloves.
Protective clothing should be regularly dry cleaned and laundered.
Change heavily contaminated clothing as soon as reasonably practicable and launder before re-use.
Wash any contaminated underlying skin with soap and water.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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| **Appearance** | Black, solid material at 25°C |
| **Odour** | Strong |
| **Melting Point** | See Softening Point. |
| **Solubility in Water** | Insoluble |
| **pH Value** | Not applicable |
| **Vapour Pressure** | Below 0.1 kPa @ 20°C (ASTM D323) |
| **Vapour Density (Air=1)** | Heavier than air |
| **Viscosity** | 0.4 Pa.s @ 165°C (430 $mm^2/s$) (MBT11) |
| **Density** | 1.03 kg/L @ 15°C (AS 2341.7) |
| **Flash Point** | >250°C (MBT 12) |
| **Initial Boiling Point** | 250°C (Thermal degradation) (ASTM D 86) |
| **Softening Point** | 55°C (MBT 31) |

## 10. STABILITY AND REACTIVITY

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| **Chemical Stability** | Products of this type are stable and unlikely to react in a hazardous manner under normal conditions of use. Hazardous polymerisation reactions will not occur.<br>This material is combustible. |
| **Conditions to Avoid** | Sources of ignition. Excessive heating above the maximum recommended handling and storage temperatures will cause degradation and evolution of flammable vapours. |
| **Incompatible Materials** | Avoid contact with strong oxidising agents. |
| **Hazardous Decomposition Products** | Thermal decomposition can produce a variety of compounds, the precise nature of which will depend on the decomposition conditions.<br>Incomplete combustion/thermal decomposition will generate smoke, carbon dioxide and hazardous gases, which will include carbon monoxide, hydrogen sulphide and oxides of sulphur.<br>Overheating in storage may cause partial vaporisation and decomposition with the production of toxic hydrogen sulphide gas. |

## 11. TOXICOLOGICAL INFORMATION

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| **Inhalation** | At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. This material contains polycyclic aromatic hydrocarbons (PCAH's) at low levels. The handling procedures and personal protective measures described should be followed to minimise employee exposure. |
| **Ingestion** | Unlikely to be accidentally swallowed in view of the high handling temperatures. Except as a deliberate act, the ingestion of large amounts of product is unlikely. Ingestion of product may cause nausea or diarrhoea.<br><br>Ingestion of hot product will cause burns to the mouth, throat and stomach. |
| **Skin** | Will cause burns if hot material contacts skin. |
| **Eye** | Will cause burns if hot material contacts eyes.<br><br>Unlikely to cause more than transient stinging or redness if accidental eye contact occurs with cold product. May be irritating to eyes at high concentrations of vapour mists or fumes. |
| **Chronic Effects** | When product is heated to high temperatures, vapour, mist or fumes will be given off and may condensate, contaminating the skin or clothing. Prolonged or repeated contact with this condensate may give rise to dermatitis or other |

skin conditions of a serious or irreversible nature.

## 12. ECOLOGICAL INFORMATION

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| **Ecotoxicity** | Unlikely to cause long term effects in the aquatic environment. |
| **Persistence / Degradability** | This product is not biodegradable. |
| **Mobility** | Spillages are unlikely to penetrate the soil. |

## 13. DISPOSAL CONSIDERATIONS

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| **Disposal Considerations** | Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations. Incineration may be carried out under controlled conditions provided that local regulations for emissions are met. Where possible arrange for the product to be recycled. Dispose of product and container carefully and responsibly. Do not dispose of near or into waterways, ditches or down drains. |

## 14. TRANSPORT INFORMATION

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| **Transport Information** | This material is classified as a Class 9 (Miscellaneous Dangerous Goods) Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Dangerous goods of Class 9 (Miscellaneous Dangerous Goods) are incompatible in a placard load with any of the following:<br>- Class 1, Explosive<br>- Class 5.1, if the Class 9 substance is a fire risk substance<br>- Class 5.2, if the Class 9 substance is a fire risk substance |
| **U.N. Number** | 3257 |
| **Proper Shipping Name** | ELEVATED TEMPERATURE LIQUID, N.O.S. - (CONTAINS BITUMEN) |
| **DG Class** | 9 |
| **Sub.Risk** | # |
| **Hazchem Code** | 2W |
| **Packaging Method** | 3.8.9 |
| **Packing Group** | III |
| **Storage and Transport** | Classified as a Combustible Liquid C2, AS 1940-1993 for storage. |
| **IERG Number** | 15 |
| **IMO Class/Packing Group** | IMO: ELEVATED TEMPERATURE LIQUID N.O.S (at or above 100°C and below its flashpoint), UN 3257, Class 9, Miscellaneous, Packing Group III, 2W |
| **IATA/ICAO - Description** | IATA/ICAO: UN 3257, Forbidden for transport. |

## 15. REGULATORY INFORMATION

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| **Regulatory Information** | This product is not classified as hazardous according to National Occupational Health and Safety Commission (NOHSC) criteria.<br>Not classified using the criteria in the Standard Uniform Schedule for Drugs and Poisons (SUSDP). |
| **Poisons Schedule** | Not Scheduled |
| **AICS (Australia)** | All components in this product are listed on AICS (Australian Inventory of Chemical Substances). |

## 16. OTHER INFORMATION

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| **Date of preparation or last revision of MSDS** | MSDS Creation: October 2005 |

...End Of MSDS...